



Dr. Jaspal Singh

Assistant Professor,

Department of Chemistry,

Gurukul Kangri (Deemed to be University), Haridwar,
Uttarakhand, 249404

Phone: +91-9758691745

Email: jaspal@gkv.ac.in, sjs2874@yahoo.com

PERSONAL DETAILS

Birthday: December 26, 1973

Marital Status: Married

Nationality: Indian

Gender: Male

EDUCATIONAL QUALIFICATIONS

Doctor of Philosophy in Chemistry 2013

Title: Determination of periodate ion in aqueous/mixed media based upon its reduction by some aromatic amine

Place: Department of Chemistry, Gurukul Kangri Vishwavidyalaya, Haridwar, UK, India-249404

Masters of Engineering (Polymer Sciences) Graduated, 2000

Title: Studies on emulsion polymerization of MMA/BA monomers for application in emulsion paints.

Place: Delhi Technical University former Delhi College of Engineering, New Delhi

Masters of Science (Chemistry) Graduated, 1996

Title: Solvent extraction of Nickel/Cobalt/Copper with semicarbazone as an extractant.

Place: IIT Roorkee former University of Roorkee, Roorkee, Uttarakhand

Bachelor of Science (Physics, Chemistry, Maths) Graduated, 1994

Place: CCS University, Meerut

WORK EXPERIENCE

- Teaching Experience 13 years for UG and PG level
- Working as Assistant Professor in Department of Chemistry, Gurukula Kangri (Deemed to be University), and Haridwar, Uttarakhand from 24 Oct 2008 to till date.
- Worked as Lecturer in Kisan Inter college jahangirpur, Moradabad from march 2005 to Oct 2008.
- Worked as Assistant Professor (Adhoc) in Department of Chemistry, Roorkee Degree College, Dhanaori, Haridwar from July 2001 to 2002.
- Worked as research associate in Vam Organic Chemical Gajrola from July 2000 to Feb 2001.

SKILLS

**Physioanalytical
Techniques/Instrument
Handled:**

GCMS, GC, Stop-Flow
Instrument, FTIR
Spectrophotometer, Digital pH
meter, Conductometer,

UV-Visible spectrophotometer,
Potentiometer, Polarimeter,
Flame photometer,
Refractometer etc.

PRIZES/ AWARDS

- Recipient of GATE-1996 & GATE-1998.
- Recipient of NET (CSIR)-2000.
- Young Scientist award for the poster presentation in the national conference on Electrochemistry for Cleaner Environment, to be held Jan. 17-18, 2014 at Jiwaji University, Gwalior.

RESEARCH INTEREST

- Physical Chemistry
- Polymer Chemistry
- Environmental Chemistry
- Nano materials

RESEARCH GUIDANCE

- | | |
|-----------------------------|--|
| • Total Research experience | 11 Years |
| • Post Graduate Level | More than 70 students of M.Sc. have completed their dissertation/Project. |
| • Doctorate Level | 04 students have completed and four Students are working on their PhDs under my supervision. |

Ph.D Awarded

As Co-guide

1. Om Singh “**Stopped flow kinetics of MnII catalyzed periodate oxidation of some anisidines-Evaluation of stability constant for the ternary intermediate complex**” 2018
2. Nishant Khandelwal “**Stopped flow kinetics of intermediate complex formation during MnII catalyzed periodate oxidation of some toluidines**” June 2018

As Guide

3. Kavita Rawat “**Analytical applications of peridate oxidation of p-bromoaniline**” July, 2018.
4. Malvika Chawla “**Synthesis and characterization of Roflumilast derivative and improving its properties by association it with Polyamidoamine dendrimer**” Dec. 2020
5. Myank Kumar Malik “**Chemical modification of extracted mandua grains starch for development of modified release drug delivery device**” July 2022

Mentorship

1. UMANG KUMAR inspire fellow on “*CHEMISTRY IN DAILY LIFE*” of Scholarship for higher education (she) inspire scheme 2021
2. UMANG KUMAR inspire fellow on “Chemistry in environmental issues” of Scholarship for higher education (she) inspire scheme 2022

M.SC. Dissertation

1. Ankit Kumar “**Review and theoretical aspects of the kinetics of free radical polymerization**” May 2021
2. Arpit Kumar “**Theoretical Aspects of Emulsion Polymerization and Their Applications in Paint**” May 2021

RESEARCH PUBLICATIONS

Research papers published/accepted in National/International reputed journals

- Research papers Published: 42(See Annexure I)

PUBLICATIONS (OTHER THAN RESEARCH PAPERS)

Books authored which are published by;

Books (International publishers): Published: 03 books (See Annexure II)

Editor of Book (ELS USA (Elsevier Inc - US)) Published: 01 (See Annexure II)

Editor of Book (ELS USA (Elsevier Inc - US)) Accepted: 01 (See Annexure II)

Chapter in Edited Book (International publishers) Published: 09 Chapters (See Annexure III)

SEMINARS/CONFERENCES/WORKSHOPS/ORIENTATION/REFERESHER COURSES

Workshops 03 (See Annexure IV)

Orientation Course 01

Refreshers Course 02

Conferences Attended: 36 (See Annexure V)

Member/Organized: 11

INVITED TALKS/ CHAIRPERSON

- Invited talks 07
- Chairperson 01

(Annexure VI)

MEMBERS OF SCIENTIFIC CONFERENCES/MEETINGS

1. Life Member of The Indian Science Congress Association, Kolkata.
2. I have worked as Member Organising committee in **International Year of Chemistry-2011(IYC-2011)** celebrations organized by Department of Chemistry, Gurukul Kangri Vishwavidyalaya, Haridwar.
3. I have worked as Member Organising committee in **World Congress for Man and Nature Global Climate Change & Biodiversity Conservation** held at Department of Zoology & Environmental Science, Gurukul Kangri Vishwavidyalaya, Haridwar from Nov. 11-13, 2011.
4. I have worked as Convener, Accommodation Committee of the **International conference on “Green Technologies for Environmental Rehabilitation” (GTER-2012)** held at Faculty of Engineering & Technology, Gurukul Kangri Vishwavidyalaya, Haridwar from feb. 11-13, 2012.
5. As a member of Celebration of National Science Day: **Fostering Scientific Temper** held at Arya P. G.College, Panipat, Haryana on Feb. 28, 2014.
6. I have worked as organizing team in National Conference on Environmental Conservation and Clean India Programme (Asia Chapter) held at UGC-Academic Staff College, Kumaun University, Nainital on 7 Dec., 2014.
7. I have worked as Convener, Registration Committee of the **National Conference on “Science & Technology for Human Development”** Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Ancient Indian History, Culture & Archaeology Gurukul Kangri University, Haridwar 249 404, Uttarakhand from March 20-21, 2015.
8. I have worked as Convener, Registration Committee of the National Conference on “Science & Technology for Indigenous Development in india” Organized by The Indian Science Congress Association: Haridwar Chapter and Faculty of Engineering& Technology Gurukul Kangri Vishwavidyalaya, Haridwar 249 404, Uttarakhand from Sept. 28-30, 2015.
9. I have worked as Co-editor publication and conference report of the **National Conference on “Science & Technology for Human Development”** Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Ancient Indian History, Culture & Archaeology Gurukul Kangri University, Haridwar 249 404, Uttarakhand from March 20-21, 2015.
10. As a member of Celebration of National Science Day: **Fostering Scientific Temper held at Arya P. G.College, Panipat, Haryana** on Feb. 28, 2015.
11. As a member of Celebration of National Science Day **held at Govt inter college Rosnabaad, Haridwar** on Feb. 28, 2016.

ORGANIZER IN CONFERENCE

1. I have worked as Organization Secretary of the 7th **National Conference on “Science & Technology for National Development”** Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Chemistry Gurukul Kangri University Haridwar 249 404, Uttarakhand from Nov. 20-22, 2016.
2. I have worked as Organization Secretary of the 10th **National Conference on “Science & Technology: Rural Development”** Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Chemistry Gurukul Kangri University Haridwar 249 404, Uttarakhand from Feb. 15-16, 2020.
3. I have worked as Convener of the 11th **National Conference on “”** Organized by The Indian Science Congress Association: Haridwar Chapter on March. 21, 2020.
4. I have worked as Convener of the 12th **National Conference on “”** Organized by The Indian Science Congress Association: Haridwar Chapter National conference on Science congress for the upliftment of common men” Organized by The Indian Science Congress Association: Haridwar Chapter, Haridwar 249 404, Uttarakhand from March. 21, 2021.

OTHER ACADEMIC RESPONSIBILITIES

1. I have worked as Member of promotion selection committees in Gurukul kangri University, Haridwar
2. I have worked as Member of ISCA: Haridwar Chapter from 2013 to 2019 in Gurukul kangri Vishwavidyalaya, Haridwar
3. I am working as treasurer ISCA: Haridwar Chapter of Indian Science Congress Association Kolkata from 2019 to till now.

LANGUAGES

- English
- Hindi

(JASPAL SINGH)

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Research papers published/accepted in Indian/international reputed journals

Published Papers-53

Accepted - 04

1. R.D. Kaushik, Manmeet Kaur, Rajdeep Malik and Jaspal Singh, "**Kinetics and Mechanism of periodate oxidation of N, N-diethyl-m-toluidine in acetone-water medium**", *Asian J. Chem.*, Vol. 22, No. 10, 2010, 7833-7840[SCI/SCOPUS Indexed][ISSN:0970-7077(print),0975-427X(online)]
2. Jaspal Singh, "**Microgram Determination of periodate ion based on its reduction by N, N-dimethylaniline**", *J. Nat. Phy. Sci.*, (2013 accepted), Vol. 25, No.1& 2, 2015, 92-100 [ISSN:0097-3799]
3. Jaspal Singh, Rajdeep Malik, Om Singh, Sushma and R. D. Kaushik, "**Kinetics and Mechanism of Mn^{II} catalyzed periodate oxidation of o-anisidine**", *Int. J. Chem. Sci.*, 12(2), 2014, 445-455.[ISSN:0972-768X]
4. R. D. Kaushik, Purnima Sundriyal, Priyanka Tyagi, Prabha Singh and Jaspal Singh "**Mn^{II} catalyzed periodate oxidation of N, N-diethyl-m-toluidine- A Kinetic and Mechanistic study**", *Int. J. Chem. Sci.*, 12(2), 2014, 600-610.[ISSN:0972-768X]
5. R.D. Kaushik, Rajdeep Malik, Om Singh, Manila and Jaspal Singh, "**Application of periodate oxidation of N, N-diethyl-m-toluidine for nanogram determination of Manganese**", *Int. J. ChemTech. Res.*, 6(5), 2014, 2695-2703. [ISSN:0974-4290]
6. R.D. Kaushik, Payal Rathi, Rajdeep Malik, Jaspal Singh and Manila, "**Mn^{II} catalysed periodate oxidation of anilines- Thermodynamic and Isokinetic studies**", *Int. J. ChemTech. Res.*, 6(5), 2014, 3122-3130 [ISSN:0974-4290]
7. R.D. Kaushik, Rajendra Yadav, Manila, Manmeet Kaur and Jaspal Singh, "**Kinetics of oxidation of Methyldopa by periodate ion in aqueous medium**", *Int. J. PharmTech Res.*, 6(5), 2014, 1509-1517.[ISSN:0974-4304]
8. R.D. Kaushik, Jaspal Singh, Manila, Manmeet Kaur and Prabha Singh, "**Kinetics and Mechanism of Mn^{II} catalyzed periodate oxidation of p-anisidine: Effect of pH**", *Bull. Chem. React. Engg. Cat.*, 9(3), 2014, 182-191. [ISSN:1978-2993].
9. Jaspal Singh, R.D. Kaushik, Nishant Khandelwal, Richa Saini, and Ekata Kumari, "**Ternary intermediate complex formation in the Mn^{II} catalysed periodate oxidation of p-phenetidine – First reported on satability constant**", *Int. J. Curr. Chem.* 5(1-4), 2014, 1-8, [ISSN 2319-7625]
10. Jaspal Singh, R.D. Kaushik, Kavita Rawat, Richa Saini, and Ekata Kumari, "**Kinetic and mechanism of ternary complex formation in the Mn^{II} catalysed periodate oxidation of p-phenetidine**", *Int. J. Curr. Chem.* 5(1-4), 2014, 9-16 [ISSN 2319-7625]

11. R.D. Kaushik, Rajdeep Malik, Richa Agarwal and Jaspal Singh, **“Kinetics and Mechanism of Mn^{II} catalysed periodate oxidation of 2, 3-Xylidine in acetone –water medium”**, *Res. J. Pharm. Biol. Chem. Sci.*, 5(3), 2014, 1644-1653. [ISSN:0975-8585].
12. R.D. Kaushik, Rajdeep Malik, M.M. Tiwari, Jaspal Singh and Prabha Singh, **“Kinetics –spectrophotometric determination of Mn^{II} in nanograms based on its catalytic effect on periodate oxidation of 2-amino-m-xylene”** *Res. J. Pharm. Bio. Chem. Sci.*, 5(3), 2014, 1963-1971.[ISSN:0975-8585].
13. R.D. Kaushik, Payal Rathi, Manila, Jaspal Singh and Rajendra Yadav, **“New Kinetic-Spectrophotometric method for Microgram determination of Doxycycline Hyclate in aqueous formulations, Tablets and Capsules”**, *J. Chem. Pharm. Res.*, 6(7), 2014, 2752 – 2758. [ISSN:0975-7384].
14. R.D. Kaushik, Rajendra Yadav, M.M. Tiwari, Payal Rathi and Jaspal Singh, **“Oxidation of Doxycycline Hyclate by Periodate ion-Study of Kinetics”**, *Der Pharmacia Lettre*, 6(4), 2014, 78-85. [ISSN:0975-5071].
15. R.D. Kaushik, Rajendra Yadav, Sushma, Manila and Jaspal Singh, **“Development and Validation of Kinetic-Spectrophotometric method for determination of Methyldopa in aqueous formulations and Tablets”**, *Der Pharma Chemica*, 6(4), 2014, 102-108. [ISSN:0975-413X].
16. R.D. Kaushik, Jaspal Singh, Manila, Priyanka Tyagi and Prabha Singh, **“Uncatalyzed non-Malapradian periodate oxidation of aromatic amines-An overview”**, *J. Indian Chem. Soc.*, Vol. 91, 2014, 1483-1490. [ISSN:0019-4522][Impact Factor:0.243]
17. R.D. Kaushik, Om Singh, Priyanka Tyagi, Rajendra Yadav and Jaspal Singh, **“Free Energy Relationships for the reaction series- Mn^{II} catalyzed periodate oxidation of Aromatic Amines”**, *J. Indian Chem. Soc.*, Vol. 91(10), 2014, 1959-1966. [ISSN:0019-4522][Impact Factor:0.243]
18. R. D. Kaushik*, Richa Agarwal, Priyanka Tyagi, Om Singh, Jaspal Singh, **“Stopped Flow Kinetics of Mn^{II} Catalysed Periodate Oxidation of 2, 3-dimethylaniline - Evaluation of Stability Constant of the Ternary Intermediate Complex”** *Bull. Chem. React. Engg. Cat.*, 10 (1), 2015, 78-87. [ISSN:1978-2993][Impact Factor: 1.077].
19. Jaspal Singh, R. D. Kaushik, Nishant Khandelwal and Ekata Kumari **“Reduction of periodate ion by o-anisidine- Application for Microgram Determination of periodate”**, *J. Indian Chem. Soc.*, 93, 2016, 93-98 [WOS/SCI/SCOPUS/ISI/UGC Indexed][ISSN:0019-4522] [Impact Factor:0.243]
20. R.D. Kaushik, Jaspal Singh, Richa Agarwal and Ekata Kumari, **“Kinetic-mechanistic study of Mn^{II} catalyzed periodate oxidation of 3, 5-xylidine”**, *J. Indian Chem. Soc.*, 93, 2016, 85-91 [WOS/SCI/SCOPUS/ISI/UGC Indexed] [ISSN:0019-4522][Impact Factor: 0.243]
21. Jaspal Singh, R.D. Kaushik, Om Singh, Richa Saini, and Ekata Kumari, **“Stopped flow kinetics of Mn^{II} catalysed periodate oxidation of o-Anisidine-first reported on stability constant of the ternary intermediate**

- complex” *Int. J. ChemTech Res.*, 10(6), 2017, 228-240 [SCOPUS/ICI/UGC Indexed [ISSN:0974-4290]
22. R.D. Kaushik, Jaspal Singh, Richa Aggarwal and Ekata Kumari, “**Stopped flow kinetics of Mn^{II} catalysed periodate oxidation of 3,5-dimethylaniline-Evaluation of stability constant of the ternary intermediate complex**” *J. Indian Chem. Soc.* 94, 2017, 605-612 [WOS/SCI/SCOPUS/ISI/UGC Indexed] [ISSN:0019-4522][Impact Factor:.243]
 23. R.D. Kaushik, Jaspal Singh, Priyanka Tyagi and Ekata Kumari, “**Mn^{II} catalysed oxidation of p-phenetidine by periodate ion-A kinetic and mechanistic study**” *J. Indian Chem. Soc.*, 94, 2017, 599-604 [WOS/SCI/SCOPUS/ISI/UGC Indexed] [ISSN:0019-4522][Impact Factor:0.243]
 24. R.D. Kaushik, Jaspal Singh, Richa Saini, Kavita Rawat and Ekata Kumari, “**Mn^{II} catalysed oxidation of p-bromoaniline by periodate ion-A kinetic and mechanistic study**” *Res. J. Pharm. Bio. Chem. Sci.*, 8(3), 2017, 1264-1272, [SCOPUS/ICI/UGC Indexed [ISSN:0975-8585]
 25. R.D. Kaushik, Jaspal Singh, Richa Saini, Priyanka Tyagi and Ekata Kumari, “**New method for microgram determination of p-phenetidine**” *RASAYAN J. Chem.*, 10 (2), 2017, 368-374 [SCOPUS/ICI/UGC Indexed] [ISSN:0974-1496, e-ISSN:0976-0083]
 26. R.D. Kaushik, Jaspal Singh, Malvika Chawla, Richa Saini and Ekata Kumari, “**Microgram determination of periodate- Application of its reduction by p-phenetidine**” *Res. J. Pharm. Bio. Chem. Sci.* 8(3), 2017, 1474-1482, [SCOPUS/ICI/UGC Indexed [ISSN:0975-8585]
 27. R.D. Kaushik, Jaspal Singh, Richa Agarwal, Payal Rathi and Ekata Kumari, “**Evaluation of stability constant of ternary intermediate complex formation in MnII catalysed periodate oxidation of 2,5-xylydine by stopped flow method**” *RASAYAN J. Chem.*, 10(2), 2017, 461-470 [SCOPUS/ICI/UGC Indexed [ISSN:0974-1496, e-ISSN:0976-0083]
 28. R.D. Kaushik, Jaspal Singh, Payal Rathi, Richa Saini and Ekata Kumari, “**Kinetic-spectrophotometric determination of MnII in nanograms based on its catalytic effect on periodate oxidation of N,N-dimethyl-p-toluidine**” *Res. J. Pharm. Bio. Chem. Sci.* 8(3), 2017, 1569-1576 [SCOPUS/ICI/UGC Indexed [ISSN:0975-8585]
 29. R.D. Kaushik, Om Singh, Jaspal Singh, S.D.Dixit and Ekata Kumari, “**Stopped flow kinetics of MnII catalysed periodate oxidation of p-anisidine-Exploring the ternary intermediate complex formation**” *Res. J. Pharm. Bio. Chem. Sci.*, 8(3), 2017, 1686-1697 [SCOPUS/ICI/UGC Indexed [ISSN:0975-8585]
 30. Jaspal Singh, R. D. Kaushik*, Priyanka Tyagi, Richa Saini and Ekata Kumari, **Application of periodate-p-phenetidine reaction for nanogram determination MnII**, *J. Chem. Pharm. Res.*, 9(6), 2017, 74-79 [ISSN:0975-7384] SCOPUS/ICI/UGC Indexed

31. Jaspal Singh, R.D. Kaushik, Nishant Khandelwal, Malvika Chawla, and Ekata Kumari, **“Studies on ternary intermediate complex formation in the MnII catalysed periodate oxidation of o-toluidine- Evaluation of stability constant”** *Res. J. Pharm. Bio. Chem. Sci.* 8(5), 2017, 510-518 [SCOPUS/ICI/UGC Indexed [ISSN:0975-8585]
32. Jaspal Singh, R.D. Kaushik, Om Singh, Richa Saini, and Ekata Kumari, **“MnII catalysed oxidation of 2,5-Xylidine by periodate ion-A kinetic and mechanistic study”** *Acta Chim Pharm Indica*, 7(2), 2017, 1-9 [SCOPUS/ICI/UGC Indexed [ISSN:2277-288X]
33. Jaspal Singh^{1*}, Kavita Rawat¹, Ekata Kumari² and R. D. Kaushik¹ **“Estimation of Periodate Ion Based on its Reduction with p-bromoaniline by Kinetic Spectrophotometric Method”** *Journal of Chemistry and Chemical Sciences*, Vol.8(5), May 2018, 800-809 [ISSN 2229-760X (Print) ISSN 2319-7625 (Online)]
34. K. Rawat, J. Singh*, R.D. Kaushik and N. khandelwal, **“Kinetic-spectrophotometric determination of p-bromoaniline at the microgram level”** *RASAYAN J. Chem.*, Vol.11(3), 2018, 1328 – 1333[ISSN: 0974-1496 | e-ISSN: 0976-0083]
35. Jaspal Singh, Malvika Chawla and R.D. Kaushik, **“Preparation and Characterization of acrylic emulsion paints formulated from nano-emulsion of methylmethacrylate / butyl acrylate”** *Essence-International Journal for Environmental Rehabilitation and Conservation*, 9 (1), 2018, 55-60, (DOI:10.31786/09756272.18.9.1.108) ISSN:0975-6272,
36. Jaspal Singh, Malvika Chawla, Kavita Rawat, Om Singh and R.D. Kaushik, **“Nano-emulsion of methylmethacrylate / butyl acrylate – An application in acrylic emulsion paints”** *Essence-International Journal for Environmental Rehabilitation and Conservation*, 9 (1), 2018, 46-54 (DOI:10.31786/09756272.18.9.1.107) ISSN:0975-6272,
37. R. D. Kaushik, Jaspal Singh and Malvika Chawla, **“Dendritic Polymers: An Innovative step towards Green future”** *Int. J. Pharma. Res.* 11(1), 2019, 272-278[SCOPUS/ICI/UGCIndexed[ISSN:0975-2366]
doi.org/10.31838/ijpr/2019.11.01.028
38. Sushma, R. D. Kaushik, M. M. Tiwari, Malvika Chawla and Jaspal Singh, **“Evaluation of kinetic parameters for MnII catalysed periodate oxidation of m-toluidine- A mechanistic study”** *RASAYAN J. Chem.*,12(3), 2019, 1203-1211 [ISSN: 0974-1496 | e-ISSN: 0976-0083],
<http://dx.doi.org/10.31788/RJC.2019.1235348>
39. R. D. Kaushik, Jaspal Singh, Malvika Chawla and Kavita Rawat, **“Nanogram determination of MnII catalyst in the degradation of p-bromoaniline by periodate ion”** *RASAYAN J. Chem.*,13(1), 2020, 541-547 [ISSN: 0974-1496 | e-ISSN: 0976-0083] <http://dx.doi.org/10.31788/RJC.2020.1315578>
40. Jaspal Singh, R.D. Kaushik, Payal Devi and Preeti Das, **“Extraction of Co(II) and Cu(II) from waste materials with semicarbazone of 4-**

- nitrobenzaldehyde”** *RASAYAN J. Chem.*,13(1), 2020, 761-766 [ISSN: 0974-1496 | e-ISSN: 0976-0083] <http://dx.doi.org/10.31788/RJC.2020.1315563>
41. Manila, R.D. Kaushik, Neha Bhatt*, Jaspal Singh, Anshu Pal and Sandhya Sharma, **“A kinetic spectrophotometric analysis of oxidation of a potential pollutant ortho aminophenol by potassium monopersulfate for its conversion into less toxic compound”** *RASAYAN J. Chem.*,13(3), 2020, 1424-1437, [ISSN: 0974-1496 | e-ISSN: 0976-0083] <http://dx.doi.org/10.31788/RJC.2020.1335771>
 42. Malvika Chawla, R. D. Kaushik, Jaspal Singh and Manila **“Optimization and Computational studies evaluating molecular dynamics of EDA cored Polymeric Dendrimer”** *Scientific Reports*, 10:21977, 2020, 1-10, <https://doi.org/10.1038/s41598-020-77540-x> , ISSN: 2045-2322, I. F. 4.996
 43. Manila , R.D. Kaushik , Sandhya Sharma*, Jaspal Singh and Neha Bhatt, **“Oxidation of ortho aminobenzyl alcohol: a concise kinetic study”**, *RASAYAN J. Chem.*, special issue, 2021, 98-109 [ISSN: 0974-1496 | e-ISSN: 0976-0083] <http://doi.org/10.31788/RJC.2021.1456566>
 44. Jaspal Singh, Malvika Chawla and R. D. Kaushik, **“Enhanced bioaccessibility of selective PDE4 inhibitor N-(3,4-dihydro-2h-1,5-benzodioxepin-7-yl) pyridine-4-carboxamide using polyamidoamine dendrimer”** *Journal of the Indian Chemical Society*, Volume 99, Issue 4, April 2022, 100408, 1-6 [ISSN: 0019-4522] <https://doi.org/10.1016/j.jics.2022.100408>
 45. Karuna Saini, R. D. Kaushik, and Jaspal Singh, **“Stopped flow kinetics and mechanistic study of periodate degradation of persist carcinogenic 2,6-xylydine by Mn(II) catalyst”** *RASAYAN J. Chem.*,15(1), 2022, 408-416. ISSN: 0974-1496 | e-ISSN: 0976-0083, <http://dx.doi.org/10.31788/RJC.2022.1516822>
 46. R. D. Kaushik*, Vinod Kumar, Jaspal Singh, **“Periodate oxidation of aromatic amines – Modelling for the effect of pH on reaction rate**, *Accounts of Chemical Education and Research*, 1, 75-82, (2022)
 47. M. Kashni · J. Singh · R. D. Kaushik, **Oxidation of aminophenols in acidic and alkaline solutions by oxone: stoichiometry and mechanism**, *International Journal of Environmental Science and Technology*, 19(5), 1-9, 2022 [ISSN: 1735-1472], <https://doi.org/10.1007/s13762-022-04151-6> (IF = 2.860)
 48. Mayank Kumar Malik, Tarun Kumar, Vipin Kumar, Raj Kumar Singh, Karuna Saini and Jaspal Singh*, **Sustainable highly foldable and eco-friendly films from mandua starch derivative**, *Sustainable Energy Technologies and Assessments*, 53, part A, 102398, (2022) <https://doi.org/10.1016/j.seta.2022.102398>, [ISSN: 2213-1388]
 49. Karuna Saini¹, R. D. Kaushik², Jaspal Singh^{1*}, Manila, Malvika Chawla¹, **An approach to the activation energy, thermodynamics, and flow injection kinetics of degradation of 2,4 –dimethylaniline”** *Sustainable Energy Technologies and Assessments*, 53, part A, 102454, (2022) [ISSN: 2213-1388], <https://doi.org/10.1016/j.seta.2022.102454>
 50. Mayank Kumar Malik, Vipin Kumar, Prince Prashant Sharma, Jaspal Singh, Shivkanya Fluoriya, Vetriselvan Subrimanyan, Neeraj Kumar Fuloria, Pawan Kumar **“Improvement in digestion resistibility of mandua starch**

(Eleusine coracana) after crosslinking with epichlorohydrin" ACS Omega 2022, 7, 31, 27334–27346, Publication Date: July 26, 2022, <https://doi.org/10.1021/acsomega.2c02327>

51. Mayank Kumar Malik¹, Pankaj Bhatt², Tarun Kumar³, Jaspal Singh¹, Vipin Kumar², Abdul Faruk³, Shivkanya Fuloria⁴, Neeraj Kumar Fuloria⁴, Vetriselvan Subrimanyan⁵, Sunil Kumar⁶, **"Significance of chemically derivatized starch as drug carrier in developing novel drug delivery devices"** The Natural Products Journal, Accepted 2022
52. Jaspal Singh¹, Payal Devi^{*1}, Karuna Saini¹, Sundeep Kumar² and Rahul Kumar³, **"Sustainable antimicrobial nanoemulsion coating material of Aloe Vera and allyl methacrylate with CaCO₃ – TiO₂ composite pigment"** *Sustainable Energy Technologies and Assessments*, Accepted, 2022, [ISSN: 2213-1388]
53. Mayank Kumar Malik, Pankaj Bhatt, Jaspal Singh^{*}, Rajneesh Dutt Kaushik, Gaurav Sharma, and Vipin Kumar, **Preclinical safety assessment of chemically crosslinked modified Mandua starch: Acute, and sub-acute oral toxicity studies in Swiss albino mice**, ACS Omega, Accepted 2022

COMMUNICATED

54. Payal Devi¹, Jaspal Singh^{1*}, Hafeezur Rehmaan¹, and R.D. Kaushik², **"Antimicrobial copolymer nanoemulsion of Aloe Vera and allyl alcohol: An in-situ approach"**, Rasayan Journal of Chemistry, Communicated, 2022
55. Malvika Chawla¹, Mayank Kumar Malik¹, R.D. Kaushik², Manila¹ and Jaspal Singh^{1*}, **"Pathophysiology, risk assessment and management for asthma patients during the COVID-19 pandemic outbreak"** Rasayan Journal of Chemistry, Communicated, 2022
56. Malvika Chawla¹, R.D. Kaushik², Hafeezur Rehmaan¹, Jaspal Singh^{1*} and Mayank Kumar Malik¹, **"Development and optimization of Rofa-PAMAM dendrimer conjugates for sustained delivery"** Material today communications, Communicated 2022.
57. Jaspal Singh^{1*}, Payal Devi¹, Hafeezur Rehmaan¹, and R.D. Kaushik², **"Novel Aloe-Vera and allyl methacrylate-based antimicrobial nanoemulsion: An In-situ approach"** Journal of the polymers research, Communicated 2022.

ANNEXURE-II

Book

1. Jaspal Singh, R.D.Kaushik, and Malvika Chawla; **Emulsion of some monomers for application in paint technology**, Lambert Academic Publishing, Page-1-76 (Nov. 2018) [ISBN No. 978-613-9-95779-8].
2. **Jaspal Singh**; “Plastic coatings for electronics: Mechanism, Function, Manufacturing technology and Applications” Lambert Academic Publishing dec.2018 [ISBN No. 978-613-9-97493-1].
3. Jaspal Singh and Malvika Chawla **“Dendritic Polymer: A future approach in drug delivery system”** ‘Synthetic mechanism, characterization, advanced drug delivery and biomedical applications’ Lambert Academic Publishing [ISBN No. 978-620-0-22805-5]
4. Jaspal Singh, R.D. Kaushik and Malvika Chawla; **“Hazardous Gases: Risk Assessment on the Environment and Health Hazards**, *Elsevier* ELS USA (Elsevier Inc - US) [ISBN No. 9780323898577], 17 July 2021
5. Jaspal Singh, R.D. Kaushik and Malvika Chawla; **“Hazardous Chemicals: Risk Assessment on the Environment and Health Hazards**, *Elsevier* ELS USA (Elsevier Inc - US) Accepted 2022

ANNEXURE-III

Book Chapters

1. Jaspal Singh, Malvika Chawla and R.D.Kaushik **“Inorganic Toxicity: MANGANESE”** in Inorganic Toxicity:Environment and Human Health, Lambert Academic Publishing, Page-206-219 (26-09-2018) [ISBN No. 978-613-9-90485-3].
2. Jaspal Singh and Nishant Khandelwal **“Inorganic Toxicity: CADMIUM”** in Inorganic Toxicity:Environment and Human Health, Lambert Academic Publishing, Page-206-219 (26-09-2018) [ISBN No. 978-613-9-90485-3].
3. Jaspal Singh, Sushma and Malvika Chawla **“Inorganic Toxicity: NITRATES** in Inorganic Toxicity:Environment and Human Health, Lambert Academic Publishing, Page-206-219 (26-09-2018) [ISBN No. 978-613-9-90485-3].
4. Jaspal Singh, Malvika Chawla and Kavita Rawat **“Inorganic Toxicity: NITRITE”** in Inorganic Toxicity:Environment and Human Health, Lambert Academic Publishing, Page-206-219 (26-09-2018) [ISBN No. 978-613-9-90485-3].
5. Jaspal Singh, Kavita Rawat and Satyendra Chaudhary **“Inorganic Toxicity: ZINC”** in Inorganic Toxicity:Environment and Human Health, Lambert Academic Publishing, Page-206-219 (26-09-2018) [ISBN No. 978-613-9-90485-3].
6. Jaspal Singh and Malvika Chawla **“Inorganic Toxicity: CYANIDE”** in Inorganic Toxicity:Environment and Human Health, Lambert Academic Publishing, Page-206-219 (26-09-2018) [ISBN No. 978-613-9-90485-3].

7. Jaspal Singh, **Oxygen: Risk Assessment, Environmental and Human Health**, “Hazardous Gases: Risk Assessment on the Environment and Health Hazards, *Elsevier* ELS USA (Elsevier Inc. - US) 289-292, 2021 [ISBN No. U0924202010591] <https://doi.org/10.1016/B978-0-323-89857-7.00013-X>
8. Sushil K. Pandey and Jaspal Singh, Nitrogen dioxide: Risk assessment, environmental, and health hazard, “Hazardous Gases: Risk Assessment on the Environment and Health Hazards, *Elsevier* ELS USA (Elsevier Inc. - US) 273-288, 2021 [ISBN No. U0924202010591] <https://doi.org/10.1016/B978-0-323-89857-7.00001-3>
9. Mayank Kumar Malik, Vipin Kumar Sharma , Jaspal Singh , Pankaj Bhatt, Arun Kumar, Prince Prashant Sharma, Raghav Dixit , R.D. Kaushik “**Chemical composition of finger millet grains in accordance to geographical distribution and potential in nutraceutical and pharmaceutical development**” *Meerut Security Press*, 21-32, 2021, ISBN- 978-93-5426-998-1

ANNEXURE-IV

Workshops

1. I have attended the **Workshop at Department of Pharmaceutical Sciences, Gurukul Kangri Vishwavidyalaya, Haridwar** from 20.06.2014 to 30.06.2014.
2. I have attended the **91th BRNS-IANCAS Workshop on Radiochemistry and Applications of Radioisotopes Department of atomic energy and radiations isotopic tracers’ laboratory, G.B.Pant University of agriculture & Technology, Pantnagar** from Feb. 22-27, 2016.
3. I have attended the **National workshop on Research Methodology** organized by **Department of Yogic Science, Faculty of Health Science, Gurukul Kangri Vishwavidyalaya, Haridwar** from Dec. 14-24, 2018.

Orientation Course

1. I have attended the **Orientation Course at Academic Staff College, Kumaun University, Nainital** from 25.11.2011 to 22.12.2011.

Refreshers Course

1. I have attended the **Refresher Course at Academic Staff College, M.D.S. University, Ajmer** from 28.09.2012 to 18.10.2012.
2. I have attended the **Refresher Course at UGC-HRDC, Kumaun University, Nainital** from 16.07.2018 to 05.08.2018.
3. I have attended the **Summer school Course at UGC-HRDC, Kumaun University, Nainital** from 13.08.2021 to 27.08.2021.

ANNEXURE-V

Conferences Attended:

1. Attended **27th conference of Indian Council of Chemists** held at Department of Chemistry, Gurukul Kangri Vishwavidyalaya, Haridwar on 26-28 Dec 2008.
2. Presented Poster Paper in **97th Indian Science Congress** held at Kerala University Thiruvananthapuram from Jan.3-7, 2010.
3. Presented Poster Paper in **International conference on Green Technologies for Greener Environment-2010** held at Department of Chemistry, CCS University, Meerut, during Jan. 27-30, 2010.
4. Attended a **Conference Pryavaran Hiteshi Pradushan Rahit Prodhogiki** by Human resources development ministry (Higher education department) held at Department of Chemistry, CCS University, Meerut (UP) during Jan. 29-30, 2010.
5. Presented Poster Paper in the **National Seminar on Recent Trends in Chemical Research** held at Department of Chemistry, Meerut College, Meerut on Sept.4-6,2010
6. Presented Poster Paper in **98th Indian Science Congress** held at SRM University, Chennai from Jan.3-7, 2011.
7. Presented Paper in **National Seminar on Innovations and Applications in Engineering & Applied Sciences** held at Faculty of Engineering & Technology Gurukul Kangri Vishwavidyalaya, Haridwar during Nov.9-10, 2011.
8. Presented Paper in **World Congress for Man and Nature Global Climate Change & Biodiversity Conservation** held at Department of Zoology & Environmental Science, Gurukul Kangri Vishwavidyalaya, Haridwar from Nov. 11-13, 2011.
9. Presented Poster Paper in **99th Indian Science Congress** held at KIIT University, Bhubaneswar, from Jan.3-7, 2012.
10. Presented Poster Paper in **International conference on “Green Technologies for Environmental Rehabilitation” (GTER-2012)** held at Faculty of Engineering & Technology, Gurukul Kangri Vishwavidyalaya, Haridwar from Feb. 11-13, 2012.
11. Presented Poster Paper in national conference on **“Progress in Electronics & Allied Sciences”(PEAS-2012)** held at Faculty of Engineering & Technology, Gurukul Kangri Vishwavidyalaya, Haridwar from Nov. 3-4, 2012.
12. Presented Poster Paper in **100th Indian Science Congress** held at Calcutta University, Calcutta, from Jan.3-7, 2013.
13. Presented Poster Paper in national conference on **“Emerging Trends in Engineering & Sciences” (ETES-2013)** held at Faculty of Engineering & Technology, Gurukul Kangri Vishwavidyalaya, Haridwar from Nov. 9-10, 2013.
14. Presented paper in National conference on **Electrochemistry for Cleaner Environment**, held at Jiwaji University, Gwalior from Jan. 17-18, 2014.
15. Presented Paper in **101th Indian Science Congress** held at Jammu University, Jammu, from Feb.3-7, 2014.
16. Presented Paper on **“Kinetics-spectrophotometric determination of MnII ----- periodate oxidation of N, N-diethylaniline”** in National Symposium on

- “Innovations in Science & Technology for Inclusive Development” Organized by ISCA: Haridwar Chapter, Department of Chemistry, GKV, Haridwar on Feb. 16, 2014.
17. Presented Paper on **“Kinetics-spectrophotometric determination of MnII ----- periodate oxidation of N, N-dimethyl-p-toluidine”** in National Symposium on “Innovations in Science & Technology for Inclusive Development” Organized by ISCA: Haridwar Chapter, Department of Chemistry, GKV, Haridwar on Feb. 16, 2014.
 18. Presented Poster Paper in national conference on **Advances in Chemical and Environmental Sciences**, held at Arya P. G.College,Panipat, Haryana from Feb. 27-28, 2014.
 19. Presented Oral Paper in national conference on **Advances in Chemical and Environmental Sciences**, held at Arya P. G.College, Panipat, Haryana from Feb. 27-28, 2014.
 20. Presented Paper on **“Studies on isokinetics relationship for the Mn catalysed periodate oxidation of anilines”** in ISCA: Haridwar Chapter National Conference on “Technovations for Inclusive Human Development” held at Department of Chemistry, CCS University, Meerut, during March. 22-23, 2014.
 21. Presented Paper **“A kinetic and mechanistic study of MnII catalysed periodate oxidation of N, N- dimethyl-p- toluidine”** in ISCA Haridwar Chapter Regional Symposium on Technovations for Inclusive Human Development held at Faculty of Engineering & Technology, Gurukul Kangri Vishwavidyalaya, Haridwar on October 12, 2014.
 22. Presented Paper on **“Self crosslinked emulsion of methyl methacrylate butyl acrylate N- methylacrylamide and glycidyl methylacrylate”** in National Conference on Environmental Conservation and Clean India Programme (Asia Chapter) held at UGC-Academic Staff College, Kumaun University, Nainital on 7 Dec., 2014.
 23. Presented paper on **“New method for microgram determination of periodate ion”** in National Conference on “Science & Technology for Human Development” Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Ancient Indian History, Culture & Archaeology Gurukul Kangri University, Haridwar 249 404, Uttarakhand from March 20-21, 2015.
 24. Presented paper on **“MnII catalysed periodate oxidation- Microgram determination of p-phenetidine”** in National Conference on “Science & Technology for Indigenous Development in india” Organized by The Indian Science Congress Association: Haridwar Chapter and Faculty of Engineering& Technology Gurukul Kangri Vishwavidyalaya, Haridwar 249 404, Uttarakhand from Sept. 28-30, 2015.
 25. Presented Paper on **“New method----- p-phenetidine”** in 103th Indian Science Congress held at University of Mysore, Mysore, from Jan.3-7, 2016
 26. Presented paper on **“Stopped flow of kinetic studies of MnII catalysed periodate oxidation of o-anisidine”** in National conference on Emerging TRENDS in Engineering & Science Organized by Jiwaji University Gwalior May 16-17, 2016.

27. Participated in **“Scientific & Technical Terminology in Environmental Science”**
Organized by Commission for **Scientific & Technical Terminology at Shri Guru Govind Guru Govt. PG College Banswara, Rajasthan** from Sept 16-17, 2016.
28. Presented paper on **“New method for determination of periodate ion”** in National Conference on **“Science & Technology for National Development”** Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Department of Chemistry, Gurukul Kangri University, Haridwar 249 404, Uttarakhand from Nov. 20-22, 2016.
29. Presented paper in **International Conference on Frontiers at the Chemistry- Allied Sciences Interface** Organized by Centre of Advanced Study Department of Chemistry, University of Rajasthan Jaipur from July 22-23, 2017.
30. Presented paper on **“New method for -----p-bromoaniline”** in **National Conference on Reaching the unreaching through science and technology** Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Mathematics and department of computer science, D.S.B. Campus, Kumaun University, Nainital Uttarakhand from Oct. 14-15, 2017.
31. Presented paper on **“Application of periodate -----determination of Mn(II)”** in National Conference on Reaching the unreaching through science and technology Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Mathematics and department of computer science, D.S.B. Campus, Kumaun University, Nainital Uttarakhand from Oct. 14-15, 2017.
32. Presented paper on **“Studies on MnII -----2,5-xylydine”** in National Conference on Reaching the unreaching through science and technology Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Mathematics and department of computer science, D.S.B. Campus, Kumaun University, Nainital Uttarakhand from Oct. 14-15, 2017.
33. Presented paper on **“Kinetic spectrophotometric determination on Mn(II) at nanogram level based on its catalysis of the periodate oxidation of p-bromoaniline”** in International Conference on Nanomaterials: Initiatives & Applications Organized by Jiwaji University, Gwalior, and School of Studies in Environmental Chemistry & Institute of Engineering from March, 09-11, 2018.
34. Presented paper on **“Review on dendrimers: An innovative step towards green future”** in International Conference on Nanomaterials: Initiatives & Applications Organized by Jiwaji University, Gwalior, and School of Studies in Environmental Chemistry & Institute of Engineering from March, 09-11, 2018.
35. Presented paper on **“A kinetic and mechanistic study of MnII catalysed periodate oxidation of 2,3-xylydine”** in National Conference on Future India: Science and Technology” Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Biological Science, CBSH G.B Pant University of Agriculture & Technology, Pant Nagar from Oct. 13-14, 2018.
36. Presented paper on **“Nano-emulsion of methylmetacrylate / butyl acrylate crosslinked an application in acrylic emulsion paints”** in International Conference on Integrative Chemistry, Biology and Translational Medicine organized by Centre

for Global Health, Hansraj College, University of Delhi & Loyola University Chicago Stritch School of medicine, USA from Feb. 25-26, 2019.

37. Presented paper on **“Methymethacrylate/Butyl acrylate emulsion for application in emulsion paint”** in National Conference on “Science & Technology: Rural Development” Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Chemistry, Gurukul Kangri University, Haridwar 249 404, Uttarakhand from Feb. 15-16, 2020.
38. Presented paper on **“Health benefit of *Mandua* consupcion”** in National Seminar on “Future of STI: Impact on education skills and work” Organized by Department of Pharmaceutical Sciences, Faculty of medical science & Health, Gurukul Kangri (Deemed to be University), Haridwar 249 404, Uttarakhand from Feb. 27-28, 2021.
39. Presented paper on **“Sustained delivery of RofaA-PAMAM Dendrimer conjugates involved in phosphodiesterase-4 inhibition assessment of anti-inflammatory activity”** in National Conference on science congress for the upliftment of common men Organized by The Indian Science Congress Association: Haridwar Chapter Haridwar on March, 21, 2021.
40. Presented paper on **“Acute-subacute toxicity----- of esterified *Mandua* starch in mice”** in International Conference on “Emerging role of pharmacist in innovation, discovery & development of biological products& biopharmaceuticals” Organized by Department of Pharmaceutical Sciences, Faculty of medical science & Health, Gurukul Kangri (Deemed to be University), Haridwar 249 404, Uttarakhand from Sept. 25-27, 2021.

ANNEXURE-VI

Invited Talks

1. Presented Invited Lecture on **Mirogram determination of periodate ion based on its reductuin by *o*-anisidine and N, N-dimethylaniline** in **ISCA Haridwar Chapter National Conference** held at Department of Chemistry, CCS University, Meerut, during March. 22-23, 2014.
2. Presented Invited Lecture on **“Stopped flow kinetics of MnII catalysed periodate oxidation of *p*-anisidine- First report on stability constant of the ternary intermediate complex”** International Seminar on Recent Trends in Chemical Sciences: Global Prospective and Progress organised by **Shri Guru Govind Guru Govt. PG College Banswara, Rajasthan** from Nov. 28-29, 2016.
3. Presented Invited Lecture on **“Evalution of stability constant of ternary intermediate complex formation in Mn catalysed periodate oxidation of some anilines by stopped flow method”** in National Conference on Reaching the unreaching through science and technology Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Mathematics and department of computer science, D.S.B. Campus, Kumaun University, Nainital Uttarakhand from Oct. 14-15, 2017.

4. Presented Invited Lecture on **“Nanogram estimation of Mn(II) of its Catalytic effect on the Periodate Oxidation of *p*-Bromoaniline”** in National Conference on Future India: Science and Technology” Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Biological Science, CBSH G.B Pant University of Agriculture & Technology, Pant Nagar from Oct. 13-14, 2018.
5. Presented Invited Lecture on **“Stopped – flow injection spectrophotometric method for evaluation on Stability constant of ternary intermediate complex formation in the Periodate oxidation of some anilines catalyzed by Mn^{II}”** in DRDO Sponsored National Conference on Advanced Technologies and Environmental Safty(ATES-2019)” Organized by IFTM University Moradabad from March, 09-10, 2019.
6. Presented Invited talk on **“Nanogram determination of MnII catalyst in the degradation of p-bromoaniline by periodate ion”** in National Conference on “Science & Technology: Rural Development” Organized by The Indian Science Congress Association: Haridwar Chapter and Department of Department of Chemistry, Gurukul Kangri University, Haridwar 249 404, Uttarakhand from Feb. 15-16, 2020.
7. Presented Invited talk on **“Sustained delivery of RofA-PAMAM Dendrimer Conjugates -----Anti-inflammatory activity”** in National conference on Science congress for the upliftment of common men” Organized by The Indian Science Congress Association: Haridwar Chapter, Haridwar 249 404, Uttarakhand from March. 21, 2021.

Chairperson

1. Act as chair person in Chemical section in the **National Conference on Environmental Conservation and Clean India Programme** held at UGC-Academic Staff College, Kumaun University, Nainital on Dec 7, 2014.