

## **Prof. Dr. Harsha Kharkwal FRSC**

**Director**

Amity Institute of Phytochemistry and Phytomedicine (AIP&P)

**Coordinator**

Amity Center of Carbohydrate Research (ACCR)



More than 20 years' experience in Research & Analysis with leading research institutes. Have researched on varied topics including Natural Product Chemistry, Lead compounds in drug discovery, Herbal Products, Applied Carbohydrate Chemistry, Novel Polysaccharides for drug delivery, Natural Colors and Dyes, Isolation of Natural Products, Pharmaceutical Formulations, Plant Hydrocolloids, Derivatization, Semi-Synthetic derivative, pharmaceutical analysis of native and modified seed gums by using latest techniques. An out-of-the-box thinker with demonstrated abilities to meet deadlines & work under pressure.

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Total Publications	81
Research Papers in last 5 years	16
Total Patents Filed & Published	Filed: 75 and Published: 63
Patents Granted	29
Total Book Chapters	25
Book	Editor: 2 and Authored: 1
Total Citations	1413
H-index	18
i10-index	29
Consultancy Completed	1
Completed Research Projects	5
Ongoing Projects	5
PhD Supervised	6
Invited lectures in Seminar/Conferences & Workshops	40
Training Organized	2

## SKILLS

- Natural Product Chemistry
- Lead compounds in drug discovery
- Herbal Products
- Applied Carbohydrate Chemistry
- Novel Polysaccharides for drug delivery
- Natural Colors and Dyes
- Isolation of Natural Products
- Pharmaceutical Formulations
- Plant Hydrocolloids
- Derivatization
- Semi-Synthetic derivative

## EDUCATION

### PhD

National Botanical Research Institute, Lucknow, U.P

Organic Chemistry (2004)

Thesis Title: Chemical investigation of *Cassia grandis* seed galactomannan and its evaluation for pharmaceutical formulation.

### M.Sc.

Kumaun University, Nainital

Organic Chemistry (1998)

### B.Sc.

Osmania University, Hyderabad

Microbiology, Zoology and Chemistry (1996)

## WORK EXPERIENCE

### Director (Hol) and Professor, AIP&P and Coordinator, ACCR

Amity University Uttar Pradesh, Noida

July 2023 – Present

### Director (Hol) and Associate Professor, AIP&P and Coordinator, ACCR

Amity University Uttar Pradesh, Noida

June 2017 – June 2023

### Director (Hol) & Assistant Professor-III, AIP&P and Coordinator, ACCR

Amity University Uttar Pradesh, Noida

June 2015 – May 2017

### Assistant Professor-II and Coordinator, ACCR

Amity University Uttar Pradesh, Noida

December 2011 – May 2015

### Senior Lecturer, Amity Institute for Herbal Research and Studies (AIHRS)

Amity University Uttar Pradesh, Noida

October 2010 – November 2011

### Lecturer, Amity Institute for Herbal Research and Studies (AIHRS)

Amity University Uttar Pradesh, Noida

November 2009 – September 2010

**Lecturer, Amity Institute of Microbial Technology (AIMT)**

Amity University Uttar Pradesh, Noida  
October 2005 – October 2009

**Senior Research Fellow, Council of Scientific and Industrial Research (CSIR)**

University Institute of Chemical Technology (UICT), Mumbai  
September 2004 – September 2005

**Senior Research Fellow, Council of Scientific and Industrial Research (CSIR)**

National Botanical Research Institute  
June 2003 – September 2004

**Project Fellow, Council of Scientific and Industrial Research (CSIR)**

National Botanical Research Institute  
September 1999 – June 2003

**HONOR AWARDS AND FELLOWSHIPS**

**Member**

European Science Foundation (ESF) College of Expert Reviewers  
(2022 - 2025)

**Fellow**

Royal Society of Chemistry (FRSC)  
(2021 - Present)

**International Travel Grant**

DBT and CSIR  
to attend the **11th Hydrocolloid Conference** held at **Purdue University, USA**  
(2012)

**Top 20<sup>th</sup> Position**

IMC Innovation Awards  
(2013)

**Experts in Chemistry**

for preparation of Definitional Dictionary Chemistry  
Commission for Scientific and Technical Terminology (CSTT), Ministry of Human Resource  
Development (MHRD, Higher Education Department), Gol  
(2019 - 2020)

**Resource Person**

CME programme  
All India Institute of Ayurveda, AYUSH

**Member**

Area Advisory Board and Board of Studies  
Amity Institute of Indian System of Medicine (AIISM), AUUP, Noida

**Member**

Institutional/Departmental Student Grievance Redressal Committee, AUUP, Noida

### Senior research Fellowship (SRF)

Council of Scientific and Industrial Research, Government of India  
(2003)

### Lucid Research Award

Lucid Colloids

For work on gums and hydrocolloids titled "Effect of Carboxymethylation on viscosity and additive properties of Dhaincha seed galactomannan"  
(2004)

## PH.D. SUPERVISED

### Ph.D. Students Under Supervision as Guide

Completed

- R Valavan (2015): Evaluation of Efficacy of different Formulations of different Combinations of Medicinal Plant Extracts for the Treatment of Dementia
- Dolly Rani (2018): Phytochemical and Pharmacological Evaluation of selected Medicinal Plants for Treatment of Diabetes.
- Chithra M A (2015): Phytochemical Investigation of Some Tropical Medicinal and Aromatic Plants from the Western Ghats.
- Preeti Panthari (2015): Phytochemical investigation on Myrica nagi therapeutic variations with abiotic factors and utilization thereof
- Geetanjali Chauhan (2010): Antimicrobial and Phytochemical Characterization of Trigonella foenum graecum
- Manisha Sharma (2010): Interaction of Symbiotic Fungus with Medicinal Plant and Study of its Potential Antimicrobial Activity

## FUNDED PROJECTS

Sl. No.	Project title	Project Investigators	Funding Agency	Period	Budget	Status
<b>Industrial Projects</b>						
1.	Safety and Efficacy of standardized extract of Boswellia serrata in animal model.	Dr. Harsha Kharkwal PI), Dr. Bhupesh, Sharma (Co-PI), Dr. Neerupma Dhiman (Co-PI), Dr. Subhash Chander (Co-PI)	Dr. Willmar Schwabe India Pvt. Ltd.	6 Months	4,09,000/- + 18% GST	Ongoing
2.	Safety and Efficacy of Polyherbal Formulation in	Dr. Harsha Kharkwal PI), Dr. Bhupesh, Sharma (Co-	Dr. Willmar Schwabe	3 Months	1,65,000/-	Ongoing

	Urinary Tract Infection in Vivo	PI), Dr. Neerupma Dhiman (Co-PI), Dr. Subhash Chander (Co-PI)	India Pvt. Ltd.			
3.	Synthesis, characterization and optimization studies on 5-halogen substituted indolin-2-one based bioactive compounds	Dr. Subhash Chander (PI) and Dr. Harsha Kharkwal (Co-PI)	Ebrilive Healthcare Pvt. Ltd	12 Months	2,00,000/-	Ongoing

### Consultancy Project

1.	Natural Dyes, Raw and Extract Quality Evaluation and Extraction Purity Process Optimization	Dr. Harsha Kharkwal (PI) and Dr. Subhash Chander (Co-PI)	Sodhani Biotech Pvt Ltd.. Jaipur	Tentative duration of the project will be 1.5 to 2 years. Initial agreement is for 3 months post, which will be extended in every after three months based on work left in the project.	285760/-	Project Sanctioned. Funding is awaited.
2.	Natural Dyeing, painting & printing processes for promoting Sustainability in traditional art forms	Dr. Harsha Kharkwal (PI), Dr. Subhash Chander (Co-PI)	Dharma Life Foundation, Germnay		2,65,000/-	Project Sanctioned. Funding is awaited.

### Govt. Funded Projects

1.	Rapid Biodegradability	Dr. Harsha Kharkwal (PI)	DBT	6 Months	900000/-	Sanctioned Letter is
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	Test in Aerobic Conditions for Biodegradable Plastic	Dr. Subhash Chander (Co-PI) and Mr. Rajesh Pahwa (Co-PI)				received. Funding is awaited
2.	Evaluation and comparative analysis of Vitex agnus-castus Linn. with Vitex negundo Linn. leaf extracts and their analgesic, anti-inflammatory activity in experimental models along with comparative clinical efficacy of its topical applications (oil & biopatch) in knee osteoarthritis	Role: (PI from Amity University) Partners: AIIA and ROSENBERG (Germany)	Ayush	36 Months	6.5 Crore	
3.	Development of Bioformulation Based on Novel Root Endophyte Talaromyce spurpureogenus HNB9 for Plant Growth Promotion and Biocontrol of Fusarium spp. BT/ATGC/127/SP4 2382/2021	Dr. Amit Kharkwal (PI) and Dr. Harsha Kharkwal, Dr. Swati Tripathi and Dr. Monika Gupta (Co-PI)	DBT	2 Years	28.578 Lakhs	Project is sanctioned. Funding is awaited.
4.	Technology Development for Conversion of Non-recyclable Waste into improved Value needed Products	Dr. Harsha Kharkwal (PI) and Mr. Amit Jain, Dr. Amrita Saha and Dr. Subhash Chander (Co-PI)	Manthan (The strategic Alliances Division of the Office of PSA with Axis Bank)	3 years	17452292/-	The Project is featured on Manthan Site under SDG Goals. The proposal is shown in the category of Innovation (Work in

						Progress Proposal Category) under SDG Goal Number 12 of Responsible Consumption and Production.
<b>Internal Project</b>						
1.	Natural polymer-based gelatin free capsules– Vegetarian hard capsules	Dr. Harsha Kharkwal (PI)	TEC		50000/-	Ongoing

### Completed Projects

S. No.	Title of Project	Funding Agency	Amount (Lakhs)
1	Synthesis, yield optimization and characterization of the N-substituted derivatives of 2-phenylthiazolidin-4-one (Consultancy Project) (Co-PI)	Ebrilive Healthcare Pvt Ltd.	Rs. 80,000/-
2	Investigations on Active Constituents of High-Altitude Medicinal Plants traditionally used as Non-Toxic Drugs (PI)	MoEF	Rs. 16, 25, 280/-
3	Characterization, cataloguing and transfer of high phytosterol content in low erucic genotypes of Indian mustard <i>B. Juncea</i> (Co-PI)	ICAR	Rs.15,0000/-
4	To Educate & Train Rural Women of Western Uttar Pradesh in the Cultivation & Processing of Medicinal Plants for the preparation of Nutraceuticals/ Functional Foods and Health care Products (Co-PI)	DST	Rs.21,53,800/-
5	On Farm Testing of proven Medicinal Plants in Sodic soil and Saline water conditions (Co-PI)	NMPB	Rs. 12,00434/-

### PUBLICATIONS

#### Published Papers

1. Singh D, Piplani M, **Kharkwal H**, Murugesan S, Singh Y, Aggarwal A, et al. Anticancer Potential of Compounds Bearing Thiazolidin-4-one Scaffold: Comprehensive Review. **Pharmacophore**. 2023;14(1):56-70. <https://doi.org/10.51847/oHzuia1yg6>. (Impact Factor: 2.16).
2. Sachin Kumar, Neha Singh, Amit Mittal, **Harsha Kharkwal**, Shreyans K. Jain, Bharat Goel. The genus Leucas: A review on phytochemistry and pharmacological activities.

- Fitoterapia (Elsevier B.V.). 2023, Volume 167, 105492; DOI: <https://doi.org/10.1016/j.fitote.2023.105492>. (Impact factor: 3.20).**
3. Awasthi Rajendra\*, Singh Kumar Anurag, Mishra Gaurav, Maurya Anand, Dhiman Neerupma, **Kharkwal Harsha**, Sharma Bhupesh, Jha Kumar Niraj, Dureja Harish, Dua Kamal, Andreoli Pinto de Jesus Terezinha and Kulkarni T. Giriraj (2023), Diagnosis and Clinical Aspects of Lung Cancer: A Special Emphasis on Drug Targeting to Cancer Cells Through Nanoparticles, **Letters in Drug Design & Discovery; Volume 19. DOI: <https://dx.doi.org/10.2174/1570180819666220510133408>. (Impact Factor: 1.15)**
  4. Ankush Goyal, Harsha Kharkwal, Mona Piplani, Yogendra Singh, Sankaranarayanan Murugesan, Amit Aggarwal, Piyush Kumar, Subhash Chander. Spotlight on 4-substituted quinolines as potential anti-infective agents: Journey beyond chloroquine. **Archiv der pharmazie (Wiley). 2023; DOI: <https://doi.org/10.1002/ardp.202200361>. (Impact Factor: 4.613)**
  5. Ramachandran Valavan, **Harsha Kharkwal**. Different Formulations of Curcuma Longa and Withania Somnifera Possess Anti-Microbial Activities *In-Vitro*. **Journal of Pharmaceutical Negative Results. 2022; 13(8): 3754-3757; DOI: <https://doi.org/10.47750/pnr.2022.13.S08.466>. (Impact Factor: 0.654).**
  6. Valavan R, **Kharkwal H**, Kumar Rajput S, Hoerr R, Chander S. Aqueous-ethanolic extracts of Curcuma longa and Withania somnifera improve memory in the dementia model. **Journal of Research in Pharmacy. 2022; 26(6): 1842-1856. DOI: <http://dx.doi.org/10.29228/jrp.274>. (Impact Factor: 0.88)**
  7. Narmin Hamaamin Hussen, Aso Hameed Hasan, Joazaizulfazli Jamalis, Sonam Shakya, Subhash Chander, **Harsha Kharkwal**, Sankaranaryanan Murugesan, Virupaksha Ajit Bastikar, Pramod Kumar Pyarelal Gupta (2022). Potential inhibitory activity of phytoconstituents against black fungus: In silico ADMET, molecular docking and MD simulation studies. **Computational Toxicology, 24, 100247 (2022), Elsevier B.V. Publications, DOI: <https://doi.org/10.1016/j.comtox.2022.100247>. (Impact Factor: 2.47).**
  8. Aso Hameed Hasan, Narmin Hamaamin Hussen, Sonam Shakya, Joazaizulfazli Jamalis, Mohammad Rizki Fadhil Pratama, Subhash Chander, **Harsha Kharkwal & Sankaranarayanan Murugesan** (2022), In silico discovery of multi-targeting inhibitors for the COVID-19 treatment by molecular docking, molecular dynamics simulation studies, and ADMET predictions, **Structural Chemistry, Volume 33, pp. 1645–1665, Springer Publications. DOI: <https://link.springer.com/article/10.1007/s11224-022-01996-y>. (Impact Factor: 1.88)**
  9. Poonam Sharma, Nikita Gaur, Shalini Jayant, B M Sharma, Bhagwat Singh, **Harsha Kharkwal**, Bhupesh Sharma (2022), Salubrious effects of ulinastatin and quercetin alone or in combination in endothelial dysfunction and vascular dementia, **Pharmacological Reports, Vol. 74, pages 481–492, Spring Nature Publications, DOI: <https://doi.org/10.1007/s43440-022-00364-1>. (Impact Factor: 3.027).**
  10. Devi Datt Joshi, Bharat Gopalrao Somkuwar, **Harsha Kharkwal**, Subash Chandra (2022), Aroma based varieties of Capsicum chinense Jacq., geographical distribution and scope for expansion of the species, **Journal of Applied Research on Medicinal and Aromatic Plants, Vol. 29 (100379), Bentham Science Publications, DOI: <https://doi.org/10.1016/j.jarmap.2022.100379> (Impact Factor: 3.94).**
  11. Rani Dolly, Kharkwal Harsha\*, Kulkarni G.T., Rai Nitin, Grover Parul, Chander Subhash (2022), Anti-diabetic, antioxidant and toxicity studies of Grewia abutilifolia leaves



- extracts, **Medicinal Plants - International Journal of Phytomedicines and Related Industries**, Vol. 13(4), pp. 689-700, DOI: <http://dx.doi.org/10.5958/0975-6892.2021.00079.4>. (Impact Factor: 0.44).
12. Rohit Bhardwaj, Amit Kumar Mittal, Nitesh Sharma, Swati Madan, **Harsha Kharkwal**, Satyendra Kumar Rajput, Ramachandran Valvan (2021), Anti-nociceptive Potential of Olmuv™ and its Safety Study through Skin Irritation Test, **Advancements in Homeopathic Research**, Vol. 6 No. 2: 18-23. DOI: <https://homoeojournal.com>
  13. Subhash Chander, Giriraj T. Kulkarni, Neerupma Dhiman, **Harsha Kharkwal** (2021), Protein Based Nanohydrogels for Bioactive Delivery, **Frontiers in Chemistry**, Vol. 9, Article 573748, Frontiers Media S.A. Publications, DOI: <https://doi.org/10.3389/fchem.2021.573748> (Impact Factor: 5.221).
  14. Dolly Rani, Megha Jha, Nitin Rai, **Harsha Kharkwal** (2021), Assessment of the Total Flavonoid, Phenol, Alkaloid Content and Sun Protection Factor in Grewia abutilifolia Leaf Extract, **Journal of Pharmaceutical Research International**, Vol. 33(Issue 49A) pp. 42-51. DOI: <https://doi.org/10.9734/jpri/2021/v33i49A33300> (NAAS Score: 5.51).
  15. Bhanu Malhotra, Giriraj T. Kulkarni, Neerupma Dhiman, D.D. Joshi, Subhash Chander, Amit Kharkwal, Arun K. Sharma, **Harsha Kharkwal** (2021), Recent advances on Berberis aristata emphasizing berberine alkaloid including phytochemistry, pharmacology and drug delivery system, **Journal of Herbal Medicine**; Vol. 27 (100433): 1-11; Elsevier Publications; DOI: <https://doi.org/10.1016/j.hermed.2021.100433> (Impact factor: 3.032).
  16. **Harsha Kharkwal**, Banoth K Kumar, Sankaranarayanan Murugesan, Gautam Singhvi, Preeti Avasthi, Ankush Goyal, Joazaizulfazli Jamalis, Subhash Chander\* (2021). Search for new therapeutics against HIV-1 via dual inhibition of RNase H and integrase: current status and future challenges. **Future Medicinal Chemistry**, 13(3): 269-286, Future Science Group; DOI: <https://doi.org/10.4155/fmc-2020-0257>. (Impact Factor: 3.808)
  17. Neerupma Dhiman, Rajendra Awasthi, Bhupesh Sharma, **Harsha Kharkwal** and Giriraj T. Kulkarni (2021). Lipid Nanoparticles as Carriers for Bioactive Delivery. **Frontiers in Chemistry**, Vol. 9, Article 580118: 1-19, Frontiers Media S.A. Publications, DOI: <https://doi.org/10.3389/fchem.2021.580118>. (Impact Factor: 5.545).
  18. Dolly Rani, G.T. Kulkarni, Nitin Rai, and **Harsha Kharkwal** (2020), Antimicrobial Activity and Phytochemical Evaluation of Grewiaabutilifolia's Leaves Extracts, **Plant Archives**, 20(2): 8589-8595, Publisher: Dr. R.S. Yadab. (Impact Factor: 0.07 ((National Academy of Agricultural Science NAAS Has Rated the Journal 4.41). DOI: [http://www.plantarchives.org/20-2/8589-8595%20\(7083\).pdf](http://www.plantarchives.org/20-2/8589-8595%20(7083).pdf)
  19. Rohit Bhardwaj, Amit Kumar Mittal, Nitesh Sharma, Swati Madan, **Harsha Kharkwal**, Satyendra Kumar Rajput, Ramachandran Valvan (2020), Anti-inflammatory, Anti-nociceptive and Toxicity Studies of Homeopathic Formulation Rück-Pain™ against Spondylitis, **Advancements in Homeopathic Research**, Vol. 5 No. 1, <https://homoeojournal.com>.
  20. Ayushi Sharma, Bhanu Malhotra, **Harsha Kharkwal**, Giriraj T. Kulkarni & Nutan Kaushik (2020), Therapeutic agents from endophytes harbored in Asian medicinal plants, **Phytochemistry Reviews**, 19: 691-720, Springer Publications, DOI 10.1007/s11101-020-09683-8. (Impact Factor: 5.374).
  21. Manikantan Ambika Chithra, Thadiyan Parambilljinu, **Harsha Kharkwal**, Palpu Pushpangadan, Varughese George (2020), Cocos nucifera L. Inflorescence extract: An

- effective hepatoprotective agent, **Indian Journal of Traditional Knowledge** 19(1): 128-136, Publisher: NISCAIR-CSIR, India, DOI: [nopr.niscair.res.in/handle/123456789/43](https://nopr.niscair.res.in/handle/123456789/43). (Impact Factor: 0.920).
22. Manikantan Ambika Chithra, Thadiyan Parambi Ijiju, **Harsha Kharkwal**, Palpu Pushpangadan, Varughese George (2019), Phenolic rich Cocos nucifera inflorescence extract ameliorates inflammatory responses in LPS-stimulated RAW264.7 macrophages and toxin-induced murine models, **Inflammopharmacology**, 28: 1073-1089, DOI: [10.1007/s10787-019-00620-6](https://doi.org/10.1007/s10787-019-00620-6). (Impact Factor: 4.473).
  23. Savita Mishra, Sandhya Hora, Vibha Shukla, **Harsha Kharkwal**, Deepshikha Pande Katare (2018), Sustained release tablets of sorafenib-silibinin combinations for the treatment of hepatocellular carcinoma, **International Journal of Applied Pharmaceutics**, 10(5): 117-124, DOI: <https://doi.org/10.22159/ijap.2018v10i5.27597>. (IF: 0.96)
  24. Simranjit Singh, Monika Joshi, Preeti Panthari, **Harsha Kharkwal** (2017), Citrulline rich structurally stable zinc oxide nanostructures for superior photo catalytic and optoelectronic applications: A green synthesis approach. **Nano-Structures and Nano-Objects**, 11: 1-6, DOI: <https://doi.org/10.1016/j.nanoso.2017.05.006>. (IF: 5.454)
  25. Palpu Pushpangadan, Thadiyan Parambilljiju, Bincy AJ, **Harsha Kharkwal**, Varughese George (2016), Traditional Medicine in livestock management, **Journal of Traditional and Folk Practices**, Jan 2016, Vol. 02, 03, 04(1): 43 – 49.
  26. Ruchi Jakhmola Mani, Khyati Mittal, Savita Mishra, **Harsha Kharkwal**, Saif Ahmad and Deepshikha Pande Katare, In Silico Approach to Evaluate the Efficacy of Dietary Flavonoids and Their Role in Alzheimer's Disease, **Int. J. Pharm. Sci. Rev. Res.**, 34(1), September – October 2015; Article No. 14: 94-102. (IF: SJIF 2018-6.857).
  27. Anu Keshwani, Bhanu Malhotra and **Harsha Kharkwal**, Nutraceutical: A Drug, Dietary Supplement and Food Ingredient. **Current Pharmacogenomics and Personalized Medicine**, 2015, 13(1): 14-22 (IF: 0.10).
  28. Anu Keshwani, Bhanu Malhotra, **Harsha Kharkwal** (2015) Natural Polymer based detergents for stain removal. **World Journal of Pharmacy and Pharmaceutical Sciences**; 4(4): 490-508 (IF: 7.632).
  29. Anu Keshwani, Bhanu Malhotra, **Harsha Kharkwal** (2015) Advancement of Nanotechnology in Food packaging. **World Journal of Pharmacy and Pharmaceutical Sciences**; 4(4): 1054-105. (IF: 7.632).
  30. Shagun Gill, Preeti Panthari, **Harsha Kharkwal** (2015), Phytochemical Investigation of High-Altitude Medicinal Plants Cinnamomum tamala (Buch-Ham) Nees and Eberm and Rhododendron arboretum Smith. **American Journal of Phytomedicine and Clinical Therapeutics**, 3(6): 512-528. (IF: SJIF-3.266)
  31. Bhanu Malhotra, Anu Keshwani, and **Harsha Kharkwal** (2015) Antimicrobial Food Packaging: Potential and Pitfalls. **Frontiers in Microbiology**; Vol.6 Article No 611. DOI: <https://dx.doi.org/10.3389/fmicb.2015.00611> (IF: 5.640).
  32. Bhanu Malhotra, Anu Keshwani, **Harsha Kharkwal** (2015) Natural Polymer based Cling Films for Food Packaging, **International Journal of Pharmacy and Pharmaceutical Sciences**; Vol. 7: 10-18 (IF: 0.56)

33. Preeti Panthari, Pranauv, Monika Joshi, **Harsha Kharkwal** (2014), Synthesis, Characterization and Evaluation of Antibacterial Efficacy, Antioxidant Potential Silver nanoparticle using Myricanagi leaf extract, **International Journal of Phytomedicine**, **6(4): 556-563 (IF: 1.23)**.
34. Manisha Sharma, Preeti Panthari, Palpu Pushpangadan, Ajit Varma, **Harsha Kharkwal** (2014) Phytochemical Analysis of Glycosides from Leaves of Trigonellafoenum graecum, **International Journal of Pharmaceutical Sciences Review and Research**; **29(1): 146-152 (IF: 2.19)**
35. **Harsha Kharkwal**, Preeti Panthari, Amit Kharkwal, Harendra Kharkwal (2014), Anti-termite activity of Heartwood of Dalbergia Sisso Roxb.Ex. DC., **World Journal of Pharmacy and Pharmaceutical Sciences**; **3(6); 673-679. (IF: 7.632)**
36. Manish Kant Pant, Amit Kharkwal, Preeti Panthari, **Harsha Kharkwal** (2014), Curcumin: A wonder Drug, **World Journal of Pharmacy and Pharmaceutical Sciences**; **3(6); 374-396. (IF: 7.632)**.
37. P Tiwari, P Panthari, D P Katare, **Harsha Kharkwal** (2014), Natural Polymers in Drug Delivery, **World Journal of Pharmacy and Pharmaceutical Sciences**; **3(9); 1395-1509 (IF: 7.632)**.
38. Priyanka Sharma, Amit C Kharkwal, **Harsha Kharkwal**, M Z Abdin, Ajit Varma (2014), A Review on Pharmacological Properties of Aloe Vera, **International Journal of Pharmaceutical Sciences Review and Research**; **29(2): 31-37 (IF: 2.19)**
39. **Kharkwal H**, Joshi DD, Panthari P, Pant MK, Kharkwal AC (2013), Formulation and In-Vitro evaluation of sun protection factor of Myricanagi ethyl acetate extract sunscreen cream, **International Journal of Advances in Pharmaceutical Research**; **4(10): 0010-0014 (IF:0.524)**
40. Panthari P, Joshi DD, **Kharkwal H**. (2013) Investigations on Myricanagi leaves: Phytochemical screening and physicochemical evaluation **World Journal of Pharmacy and Pharmaceutical Sciences**, **2(5): 2867-2873 (IF: 7.632)**
41. **Harsha Kharkwal**, Kumud Bala, DD Joshi and Deepshikha Pande Katare (2013) Bioavailability Enhancement of Curcuminoids using Natural Polymer, **Der Pharmacia Lettre**, **4(6): 1698-1711. (IF: 0.24)**
42. **Harsha Kharkwal**, Kumud Bala, Deepshikha Pande Katare (2013) Biodegradable Capsules: A Review, **World Journal of Pharmacy and Pharmaceutical Sciences**, **2(6): 4474-4484 (IF: 7.632)**
43. **H. Kharkwal**, D.D. Joshi, A.C. Kharkwal and R. Prasad (2012) Antifungal activities of leaf extract of Clerodendrum Infortunatum Retz., **World Applied Sciences Journal** **20(11): 1538-1540**.
44. **Harsha Kharkwal**, Binding agents from *Cassia* Species (2012) **International Journal of Pharmaceutical and Phytopharmacological Research**. **2(2): 83-86 (ICV: 5.09); (IF: 0.7826)**
45. Preeti Panthari, **Harsha Kharkwal**, Harendra Kharkwal and Devi Datt Joshi (2012) Myrica nag: A Review on Active Constituents, Biological and Therapeutic effects **International Journal of Pharmacy and Pharmaceutical Sciences** **4(5): 38-42 (IF: 1.59)**

46. **Harsha Kharkwal**, Devi Datt Joshi, Preeti Panthari, Amit C Kharkwal (2012) Algae as future drugs **Asian Journal of Pharmaceutical and Clinical Research** **5(4): 1-5 (IF: 0.51)**
47. **Harsha Kharkwal**, Preeti Panthari, Manish Kant Pant, Amit C Kharkwal, Harendra Kharkwal and Devi Datt Joshi (2012) Foaming Glycosides: A review **IOSR Journal of Pharmacy**, **2(5): 23-28.**
48. Deepshikha Pande Katare, Kumud Bala and **Harsha Kharkwal** (2012) RNA based Therapeutics, **International Journal of Pharmacy and Pharmaceutical Sciences**; **4(3): 1-10 (IF:1.59)**
49. **Harsha Kharkwal**, Kumud Bala and Deepshikha Pande Katare (2011) Biodegradable Polymers: Role in Enhancing Bioavailability of Drug, **Asian Journal of Biomedical and Pharmaceutical Sciences** **1(5): 1-11 (IF: 0.51)**
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3. Bhanu Malhotra, Preeti Panthari, **Harsha Kharkwal** and Madhav P. Yadav, Polymer Targeting Habitual Diseases, **Natural Polymers for Drug Delivery, Publisher: Oxfordshire, UK; Boston, MA: CABI, [2016], pp 171-182.**
4. Bhanu Malhotra, **Harsha Kharkwal**, Anupam Pradhan, Ocular Drug Delivery Systems, **Natural Polymers for Drug Delivery, Publisher: Oxfordshire, UK; Boston, MA: CABI, [2016], pp 160-170.**
5. Deepshikha Pandey Katare, Savita Mishra, **Harsha Kharkwal** and S. K. Jain, Protein-Drug conjugates: A New class of Biotherapeutics, **Natural Polymers for Drug Delivery, Publisher: Oxfordshire, UK; Boston, MA: CABI, [2016], pp 93-106.**
6. Bhanu Malhotra, **Harsha Kharkwal**, Anuradha Srivastava, Polymers as Biodegradable Matrices in Transdermal Drug Delivery Systems, **Natural Polymers for Drug Delivery, Publisher: Oxfordshire, UK; Boston, MA: CABI, [2016], pp 145-159.**
7. Bhanu Malhotra, **Harsha Kharkwal** and Amit Kumar Tyagi, Polymer-drug Conjugates: Targeted Drug Delivery, **Natural Polymers for Drug Delivery, Publisher: Oxfordshire, UK; Boston, MA: CABI, [2016], pp. 78-92.**
8. Preeti Panthari, **Harsha Kharkwal**, Microencapsulation for Controlled Gastrointestinal Delivery of Probiotics and Prebiotics, **Natural Polymers for Drug Delivery, Publisher: Oxfordshire, UK; Boston, MA: CABI, [2016], pp 107-116.**
9. Bhanu Malhotra, **Harsha Kharkwal** and Anuradha Srivastava, Water-soluble biodegradable Polymers for Drug Delivery, **Natural Polymers for Drug Delivery, Publisher: Oxfordshire, UK; Boston, MA: CABI, [2016], pp 37-44.**
10. Bhanu Malhotra, **Harsha Kharkwal** and M.P. Yadav, Cellulose-based Polymeric Systems in Drug Delivery, **Natural Polymers for Drug Delivery, Publisher: Oxfordshire, UK; Boston, MA: CABI, [2016], pp 10-21.**
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#### **Co-Editor**

- **Microbes for Human Life. Microbiology Series** (eds Chauhan AK, **Kharkwal H** and Varma A) **IK International- India and Anshan Publications, U.K., Vol. 4. 2007**

## Authored Book

- Interaction of Symbiotic Fungus with Fenugreek (Effect of Mycorrhizal Association on Phyto-chemistry of Fenugreek), LAP LAMBERT Academic Publishing, Germany, 2012.

## PATENTS GRANTED

S. No.	Academic Year	Title of the Patent	Inventors	Patent Status
1.	2022-2023	Sunscreen Lotion/Gel formulation for skin flushing and inflammation	<b>Harsha Kharkwal</b>	National
2.	2022-2023	Novel carbohydrate for water soluble paints	<b>Harsha Kharkwal</b>	National
3.	2022-2023	Green synthesis of silver nanoparticles using ethanolic extract of zanthoxylum alatum leaves	<b>Harsha Kharkwal</b> , Monika Joshi, Preeti Panthari, Pranaav Balaji	National
4.	2022-2023	Targeted Delivery Through Novel Brain Receptors for Combating Type 3 Diabetes	Dr. Deepshikha Pande Katare, Dr. Khyati Mittal, Dr. Dheeraj Nagpal, <b>Dr. Harsha Kharkwal</b>	National
5.	2022-2023	Antiovolatory lepidin based novel formulation and a method for the preparation thereof	Deepshikha Katare. <b>Harsha Kharkwal</b> , Kumud Bala,	National
6.	2022-2023	A method for the preparation of novel Polysaccharide Ethers	<b>Harsha Kharkwal</b> , DD Joshi, AC Kharkwal	National
7.	2022-2023	Carotenoids enriched functional foods derived from agri-horticultural waste	<b>Dr. Harsha Kharkwal</b> , Dr. Dhan Prakash, Dr. Charu Gupta	National
8.	2022-2023	Injection Mouldable Bioplastic	<b>Harsha Kharkwal</b>	National
9.	2022-2023	Dietary supplement for treating malathion induced toxicity in testis'of	Kumud Bala, <b>Harsha Kharkwal</b> , Deepshikha Katare	National
10.	2022-2023	Novel Formulation of Standardized Extract of Psoralea Corylifolia for	Deepshikha Katare, Neha Mathur, <b>Harsha Kharkwal</b> , Kumud Bala, Vidu Aeri	National

		the Treatment of Liver Cirrhosis		
11.	2022-2023	Probiotic Enhanced Lactoserum Based Functional Food Product for Use as Adjuvant Therapy for Anaemia	Dr. Charu Gupta, Dr. Dhan Prakash and Dr. <b>Harsha Kharkwal</b>	National
12.	2021-2022	Novel paint composition	<b>Dr. Harsha Kharkwal</b>	National
13.	2021-2022	Novel composites prepared using coagulum (diterpene carboxymethyl ester) with jute fiber	R K Diwan, <b>Harsha Kharkwal</b>	National
14.	2021-2022	Novel Synthesis of Magnetic Iron Oxide Nanoparticles Using Cinnamon Leaf Extract	<b>Harsha Kharkwal</b> , Monika Joshi, Preeti Panthari, Pranuav Balaji	National
15.	2021-2022	Novel Self Defense Spray Formulation	<b>Harsha Kharkwal</b>	National
16.	2020-2021	Carbohydrate Based Biodegradable and Hydro-biodegradable Plastics	<b>Harsha Kharkwal</b> / D.D. Joshi / Deepshikha / Pande Katare / Amit C Kharkwal / Navin Nainwal / Kumud Bala	National
17.	2020-2021	Polymer based Gelatin Free Capsules	<b>Harsha Kharkwal</b> / Kumud Bala / Deepshikha Pande Katare / D.D. Joshi / Amit C Kharkwal	National
18.	2020-2021	A Biodegradable Bioplastic Formulation and a Method for Preparing the same	<b>Harsha Kharkwal</b>	National
19.	2020-2021	Herbal Nail Polish	Manish Kant Pant / <b>Harsha Kharkwal</b> / D.D. Joshi	National
20.	2020-2021	A Formulation from Emulsifying Agent from Native and Derivatized Grandis Gum	<b>Harsha Kharkwal</b>	National
21.	2020-2021	Herbal Colour for Cosmetic and Food Industry	<b>Harsha Kharkwal</b> / D.D. Joshi / Deepshikha Pande Katare / Kumud Bala / Navin Nainwal	National
22.	2020-2021	"Polyphenol enriched antimutagenic product	Dhan Prakash / Charu Gupta / <b>Harsha Kharkwal</b>	National



		from fruit pericarp of Trapa bispinosa		
23.	2020-2021	Improved cling packaging films for food industry	<b>Harsha Kharkwal</b>	National
24.	2019-2020	Shampoo for dry and greasy hair	<b>Dr. Harsha Kharkwal /</b> Deepshikha Pande Katare / Kumud Bala / Navin Nainwal	National
25.	2019-2020	Synthesis of a Novel Analogue of Sorafenib for the treatment of Hepato Cellular Carcinoma	D.P. Katare / <b>Harsha</b> <b>Kharkwal /</b> Kumud Bala	National
26.	2019-2020	Suspending agent from cassia species	<b>Harsha Kharkwal</b>	National
27.	2019-2020	Novel composition of biopolymers and a process for the preparation thereof	<b>Harsha Kharkwal /</b> Dhan Prakash / P. Pushpangadan / Charu Gupta	National
28.	2019-2020	A method for preparing the quercetin loaded nanoparticle	Deepshikha Pande Katare / Kumud Bala / <b>Harsha</b> <b>Kharkwal</b>	National
29.	2018-2019	Polyphenol Enriched Antioxidant Nutraceutical Product as Adjuvant Therapy for Cancer Chemoprevention and Process for The Preparation Thereof	Dr. Dhan Prakash / Dr. Charu Gupta / <b>Dr. Harsha</b> <b>Kharkwal,</b>	National

## PATENTS PUBLISHED

S. No.	Academic Year	Title of the Patent	Patent Status	Date of Publication
1.	2010-2011	Suspending agent from cassia species	National	26/11/2010
2.	2010-2011	A formulation from emulsifying agent from native and derivatized grandis gum	National	05/11/2010
3.	2010-2011	Saponin derivatives	National	29/10/2010
4.	2012-2013	A novel herbal composition for muscle cramps and process for the preparation thereof	National	24/05/2013

5.	2012-2013	Colostrum enriched immune enhancer functional food supplement for malnourished children and process for the preparation thereof	National	22/03/2013
6.	2012-2013	Phytoestrogens enriched nutraceutical product for use as dietary supplement in osteoporosis and process for the preparation thereof	National	15/03/2013
7.	2012-2013	Probiotic enhanced lactoserum based functional food product for use as adjuvant therapy in anaemia	National	08/03/2013
8.	2012-2013	Herbal energy drink in different flavors	National	08/03/2013
9.	2012-2013	Polyphenol enriched antioxidant nutraceutical product as adjuvant therapy for cancer chemoprevention and process for the preparation thereof	National	01/03/2013
10.	2012-2013	A novel herbal anti dandruff formulation and process for the preparation of the same	National	25/01/2013
11.	2012-2013	A novel composition of herbal cream for cracked heels, hands and palms and process for the preparation thereof.	National	07/12/2012
12.	2012-2013	An improved process for extraction of lutein esters from banana peel	National	16/11/2012
13.	2012-2013	Different shades of herbal hair dyes and process for preparation thereof	National	30/11/2012
14.	2013-2014	A novel composition for the preparation of herbal tea	National	28/02/2014
15.	2013-2014	An herbal sunscreen protection cream	National	21/02/2014
16.	2013-2014	Novel formulation of standardized extract of psoralea corylifolia for the treatment of liver cirrhosis	National	10/1/2014
17.	2013-2014	Novel polysaccharide ethers	National	03/01/2014
18.	2013-2014	An herbal healing cream formulation for cracked heels	National	27/09/2013
19.	2013-2014	Herbal colours for cosmetic and food industry	National	12/07/2013
20.	2013-2014	Herbal nail polish	National	05/07/2013
21.	2013-2014	Novel formulation for non-small cell lung cancer	National	07/06/2013

22.	2013-2014	High fibre dietary supplement for diabetes	National	24/05/2013
23.	2013-2014	A method for preparing the quercetin loaded nanoparticle	National	10/05/2013
24.	2013-2014	Novel formulation for cancer	National	19/04/2013
25.	2013-2014	Carotenoids enriched functional foods derived from agri-horticultural wastes	National	05/04/2013
26.	2013-2014	Novel composition of biopolymers and a process for the preparation thereof	National	01/02/2013
27.	2013-2014	Polyphenol enriched antioxidant product with strong antimutagenic and free radical scavenging activities derived from fruit pericarp of trapa bispinosa	National	18/01/2013
28.	2014-2015	Makeup removal composition and a method of preparation thereof	National	12/12/2014
29.	2014-2015	Synthesis of a novel analogue of sorafenib for the treatment of hepatocellular carcinoma	National	05/12/2014
30.	2014-2015	An improved method for isolation and purification of berberine from species containing berberine	National	05/12/2014
31.	2014-2015	Novel synergistic drug for HCC	National	05/12/2014
32.	2014-2015	Profound effect of curcumin along with vitamin-c on malathion induced toxicity reduction	National	05/12/2014
33.	2014-2015	Dietary supplement for treating malathion induced toxicity in testis	National	28/11/2014
34.	2014-2015	Multipurpose cream for skin ailments	National	15/08/2014
35.	2014-2015	Vegetarian hard capsules	National	15/08/2014
36.	2014-2015	Thickening agents for food, paint and textile industry	National	04/04/2014
37.	2014-2015	Novel self defense spray formulation	National	06/03/2015
38.	2014-2015	Targeted drug delivery for liver carcinoma using silymarin-drug conjugates	National	02/01/2015
39.	2014-2015	Sunscreen lotion/gel formulation for skin flushing and inflammation	National	19/12/2014
40.	2014-2015	Improved cling packaging films for food industry	National	29/08/2014
41.	2014-2015	Novel carbohydrate for water soluble paints	National	22/08/2014

42.	2014-2015	Carbohydrate based biodegradable and hydrobiodegradable plastics	National	26/12/2014
43.	2014-2015	Polymer based gelatin free capsules	National	05/12/2014
44.	2018-2019	Shampoo for dry and greasy hair	National	11/12/2015
45.	2015-2016	Polygalactomannans and modified polygalactomannans from fenugreek seeds and their uses thereof	National	11/12/2015
46.	2015-2016	Novel synthesis of magnetic iron oxide nanoparticles using cinnamon leaf extract	National	02/10/2015
47.	2015-2016	A biodegradable bioplastic formulation and a method for preparing the same	National	25/09/2015
48.	2015-2016	Novel prebiotic product for treating hemorrhoid	National	21/08/2015
49.	2015-2016	Green synthesis of silver nanoparticles using ethanolic extract of zanthoxylum alatum leaves	National	10/7/2015
50.	2015-2016	Novel formulation for nash (nonalcoholic steatohepatitis)	National	08/05/2015
51.	2015-2016	Improved additive composition for paper industry	National	17/04/2015
52.	2015-2016	Antiovolatory lepidin based novel formulation and a method for the preparation thereof	National	10/04/2015
53.	2016-2017	Herbal balm for chapped lips	National	31/08/2016
54.	2016-2017	Injection mouldable bio-plastic	National	19/08/2016
55.	2016-2017	Lipstick formulation and method for preparing the same	National	15/04/2016
56.	2016-2017	Novel extraction procedure for dark herbal colours	National	14/10/2016
57.	2016-2017	Novel composites composition prepared from coagulum extracted from plant source scoparia dulcis	National	30/12/2016
58.	2017-2018	Natural multipurpose dye	National	16/03/2018
59.	2017-2018	Novel paint composition	National	02/03/2018
60.	2017-2018	Biodegradable plastic	National	29/09/2017
61.	2018-2019	Natural hair dye	National	08/03/2019
62.	2020-2021	A Process for Extraction and Isolation of Non-Pungent Pigments from Pungent Chili (Capsicum Spp) fruits	National	12/03/2021
63.	2021-2022	Process to Extract, Collect Rice Aroma and Flavor and Preparation of Flavored Food Products	National	16/07/2021

## PATENTS FILED

S. No.	Title of the Patent	Inventor(s)
1.	A formulation from emulsifying agent from native and derivatized grandis gum	<b>Harsha Kharkwal</b>
2.	Suspending agents from <i>Cassia Species</i>	<b>Harsha Kharkwal</b>
3.	Different shades of herbal hair dyes and process for preparation thereof	<ul style="list-style-type: none"> <li>• Dhan Prakash</li> <li>• P. Pushpangadan</li> <li>• <b>Harsha Kharkwal</b></li> <li>• V. George</li> <li>• Charu Gupta</li> </ul>
4.	Novel composition of biopolymers and a process for the preparation thereof	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• Dhan Prakash</li> <li>• P. Pushpangadan</li> <li>• Charu Gupta</li> </ul>
5.	A novel composition of herbal cream for cracked heels, hands and palms and process for the preparation thereof.	<ul style="list-style-type: none"> <li>• Charu Gupta</li> <li>• Dhan Prakash</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
6.	Herbal lip balm for chapped lips	<ul style="list-style-type: none"> <li>• Charu Gupta</li> <li>• Dhan Prakash</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
7.	Polyphenol enriched antioxidant product with strong anti-mutagenic and free radical scavenging activities derived from fruit pericarp of <i>Trapabispinosa</i> .	<ul style="list-style-type: none"> <li>• Dhan Prakash</li> <li>• Charu Gupta</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
8.	A novel herbal antidandruff formulation and process for the preparation of the same	<ul style="list-style-type: none"> <li>• Dhan Prakash</li> <li>• Charu Gupta</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
9.	Polyphenol enriched antioxidant nutraceutical product as adjuvant therapy for cancer chemoprevention and process for the preparation thereof.	<ul style="list-style-type: none"> <li>• Dhan Prakash</li> <li>• Charu Gupta</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
10.	Herbal energy drink in different flavours	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• Dhan Prakash</li> <li>• Charu Gupta</li> </ul>
11.	Probiotic enhanced lactoserum based functional food product for use as adjuvant therapy in Anaemia	<ul style="list-style-type: none"> <li>• Charu Gupta</li> <li>• Dhan Prakash</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
12.	Phytoestrogens enriched nutraceutical product for use as dietary supplement in osteoporosis and process for the preparation thereof.	<ul style="list-style-type: none"> <li>• Dhan Prakash</li> <li>• Charu Gupta</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
13.	Colostrum enriched immune enhancer functional food supplement for malnourished children and process for the preparation thereof	<ul style="list-style-type: none"> <li>• Charu Gupta</li> <li>• Dhan Prakash</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
14.	Carotenoids enriched functional foods derived from agri-horticultural wastes	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• Dhan Prakash</li> <li>• Charu</li> </ul>

15.	Novel Formulation for Treating Cancer	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• Preeti Panthari</li> <li>• D.D Joshi</li> <li>• Manish Kant Pant</li> <li>• Deepshikha Pande Katare</li> </ul>
16.	High Fiber Dietary Supplement for Diabetes	<ul style="list-style-type: none"> <li>• <b>Dr. Harsha Kharkwal</b></li> <li>• Dhan Prakash</li> <li>• D.D. Joshi</li> <li>• Deepshikha Pande Katare</li> </ul>
17.	Novel Formulation for Quercetin for the treatment of Alzhemier's Disease	<ul style="list-style-type: none"> <li>• Deepshikha Pande Katare</li> <li>• Kumud Bala</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
18.	Novel Herbal Formulation for Treatment of Eczema	<ul style="list-style-type: none"> <li>• P. Pushpangadan</li> <li>• <b>Harsha Kharkwal</b></li> <li>• George</li> </ul>
19.	Novel Formulation for Non-Small Cell Lung Cancer	<ul style="list-style-type: none"> <li>• Deepshikha Pande Katare</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
20.	An Herbal Healing Cream Formulation for Cracked Heels	<ul style="list-style-type: none"> <li>• D.D. Joshi</li> <li>• Manish Kant Pant</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
21.	Herbal Colours for Food and Cosmetic Industry	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• D.D. Joshi</li> <li>• Deepshikha Pande Katare</li> <li>• Kumud Bala</li> <li>• Navin Nainwal</li> </ul>
22.	Herbal Nail Polish	<ul style="list-style-type: none"> <li>• Manish Kant Pant</li> <li>• <b>Harsha Kharkwal</b></li> <li>• D.D. Joshi</li> </ul>
23.	Novel Formulation for treating NASH	<ul style="list-style-type: none"> <li>• Deepshikha Pande Katare</li> <li>• Kumud Bala</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
24.	Dietary Supplement for Treating Malathion induced Toxicity in Rats	<ul style="list-style-type: none"> <li>• Dr.Kumud Bala</li> <li>• <b>Dr. Harsha Kharkwal</b></li> <li>• Deepshikha Pande Katare</li> </ul>
25.	Shampoo for dry and greasy hair	<ul style="list-style-type: none"> <li>• <b>Dr. Harsha Kharkwal</b></li> <li>• Deepshikha Pande Katare</li> <li>• Kumud Bala</li> <li>• Navin Nainwal</li> </ul>
26.	Polymer based Gelatin free Capsules	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> </ul>

		<ul style="list-style-type: none"> <li>• Kumud Bala</li> <li>• Deepshikha Pande Katare</li> <li>• D.D. Joshi</li> <li>• Amit C Kharkwal</li> </ul>
27.	Targeted Drug Delivery for Liver Carcinoma using Silymarin drug conjugates	<ul style="list-style-type: none"> <li>• Deepshikha Pande Katare</li> <li>• John Moses</li> <li>• S.K. Jain</li> <li>• <b>Harsha Kharkwal</b></li> <li>• Pallavi Sharma</li> <li>• Kumud Bala</li> <li>• D.D. Joshi</li> </ul>
28.	Profound Effect of Curcumin along with Vitamin C	<ul style="list-style-type: none"> <li>• Kumud Bala</li> <li>• Deepshikha Pande Katare</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
29.	Novel Synergistic Drug for HCC	<ul style="list-style-type: none"> <li>• Deepshikha PandeKatare</li> <li>• John Moses</li> <li>• S.K. Jain</li> <li>• <b>Harsha Kharkwa</b></li> <li>• Pallavi Sharma</li> <li>• Kumud Bala</li> <li>• D.D. Joshi</li> </ul>
30.	An improved method for isolation and purification of Berberine from species containing Berberine	<ul style="list-style-type: none"> <li>• Manish Kant Pant</li> <li>• <b>Harsha Kharkwal</b></li> <li>• D.D. Joshi</li> </ul>
31.	Synthesis of a Novel Analogue of Sorafenib for the treatment of Hepato Cellular Carcinoma	<ul style="list-style-type: none"> <li>• D.P. Katare</li> <li>• <b>Harsha Kharkwal</b></li> <li>• Kumud Bala</li> </ul>
32.	Novel Polysaccharide Ethers	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• D.D. Joshi</li> <li>• Amit C Kharkwal</li> </ul>
33.	Novel Formulation for Standardized extract of Psoraleacorylifolia for the Treatment of Liver Cirrhosis	<ul style="list-style-type: none"> <li>• Deepshikha Pande Katare</li> <li>• Neha Mathur</li> <li>• <b>Harsha Kharkwal</b></li> <li>• Kumud Bala</li> <li>• Vidhu Aeri</li> </ul>
34.	Carbohydrate Based Biodegradable and Hydrobiodegradable Plastics	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• D.D. Joshi</li> <li>• Deepshikha Pande Katare</li> <li>• Amit C Kharkwal</li> <li>• Navin Nainwal</li> <li>• Kumud Bala</li> </ul>

35.	A novel composition for the preparation of herbal tea	<ul style="list-style-type: none"> <li>• Preeti Panthari</li> <li>• <b>Harsha Kharkwal</b></li> <li>• Hina Sanwal</li> <li>• Amit C Kharkwal</li> <li>• Ram Prasad</li> <li>• Devi Datt Joshi</li> </ul>
36.	Thickening agents for Food, Paint and Textile Industry	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• D.D. Joshi</li> <li>• Amit C Kharkwal</li> <li>• Ram Prasad</li> </ul>
37.	Multipurpose Skin Cream	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• D.D. Joshi</li> <li>• Amit C Kharkwal</li> <li>• Ram Prasad</li> </ul>
38.	Vegetarian Hard Capsule	<b>Harsha Kharkwal</b>
39.	An Herbal Sunscreen Protection Cream	<ul style="list-style-type: none"> <li>• Preeti Panthari</li> <li>• <b>Harsha Kharkwal</b></li> <li>• D.D. Joshi</li> </ul>
40.	Novel Carbohydrate for water soluble paints	<b>Harsha Kharkwal</b>
41.	Improved Cling Films for Food Industry	<b>Harsha Kharkwal</b>
42.	Novel Oil Carbohydrate Based Lipstick	<b>Harsha Kharkwal</b>
43.	Makeup removal formulation and a method of preparation thereof	<b>Harsha Kharkwal</b>
44.	Bioplastic formulation and novel methodology for the preparation of the same	<b>Harsha Kharkwal</b>
45.	Sunscreen lotion/gel formulation for skin flushing and inflammation	<b>Harsha Kharkwal</b>
46.	Novel Self Defense Spray	<b>Harsha Kharkwal</b>
47.	Antiovolatory Lepidin based novel formulation and a method of preparation thereof	<ul style="list-style-type: none"> <li>• Deepshikha</li> <li>• <b>Harsha Kharkwal</b></li> <li>• Kumud</li> </ul>
48.	Improved Additive for Paper Industry	<b>Harsha Kharkwal</b>
49.	Green synthesis of silver nanoparticles using ethanolic extract of Zanthoxylum leaves	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• Monika Joshi</li> <li>• Preeti Panthari</li> <li>• Pranaav Balaji</li> </ul>
50.	Novel synthesis of magnetic Iron Oxide nanoparticles using cinnamon leaf extract	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• Monika Joshi</li> <li>• Preeti Panthari</li> <li>• Pranaav Balaji</li> </ul>
51.	Injection mouldable Plastics	<b>Harsha Kharkwal</b>
52.	Novel Composites Composition prepared from Coagulum extracted from Plant Source <i>Scoparia Dulcis</i>	<ul style="list-style-type: none"> <li>• R.K. Diwan</li> <li>• <b>Harsha Kharkwal</b></li> <li>• Amit Kharkwal</li> <li>• N.C. Nainwal</li> </ul>



53.	Novel composite prepared using derivatized diterpene from Clerodendrum kaichianum and PVC polymer	<ul style="list-style-type: none"> <li>• R.K. Diwan</li> <li>• <b>Harsha Kharkwal</b></li> <li>• Amit Kharkwal</li> <li>• N.C. Nainwal</li> <li>• Partha Bhattacharya</li> </ul>
54.	Novel Extraction Procedure for Dark Herbal Colours	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• Preeti Panthari</li> </ul>
55.	Novel composites prepared using coagulum (diterpene carboxymethyl ester) with jute fiber	<ul style="list-style-type: none"> <li>• Dr. RK Diwan</li> <li>• <b>Dr. Harsha Kharkwal</b></li> </ul>
56.	Biodegradable Plastic	<b>Harsha Kharkwal</b>
57.	Novel Paint Composition	<b>Harsha Kharkwal</b>
58.	Pharmaceutical Compositions of natural L-DOPA for the treatment of Parkinson's Disease	<ul style="list-style-type: none"> <li>• Deepshikha Pande Katare,</li> <li>• Dheeraj Nagpal,</li> <li>• Khyati Mittal,</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
59.	Natural multipurpose Dye	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• Amit Chandra Kharkwal</li> <li>• Neerupma Dhiman</li> <li>• Deepshikha Pande Katare</li> </ul>
60.	Natural Hair Dye	<b>Harsha Kharkwal</b>
61.	Targeted delivery through novel brain receptors for combating type 3 diabetes	<ul style="list-style-type: none"> <li>• Deepshikha Pande Katare</li> <li>• Khyati Mittal</li> <li>• Dheeraj Nagpal</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
62.	A Process for Extraction and Isolation of Non-Pungent Pigments from Pungent Chili (Capsicum Spp) fruits	<ul style="list-style-type: none"> <li>• D.D. Joshi</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
63.	Process to Extract, Collect Rice Aroma and Flavor and Preparation of Flavored Food Products	<ul style="list-style-type: none"> <li>• D.D. Joshi</li> <li>• <b>Harsha Kharkwal</b></li> <li>• Rajni Singh</li> <li>• Neerupma Dhiman</li> </ul>
64.	A herbal composition for outdoor mosquito nuisance	<ul style="list-style-type: none"> <li>• D.D. Joshi</li> <li>• Rajni Singh</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
65.	Synthesis of gs-441524 nucleoside analogs and its intermediates (Provisional Patent: Filed by Crenza Pharmaceutical Pvt. Ltd.)	<ul style="list-style-type: none"> <li>• Dr. Sandhya Pittala</li> <li>• Dr. Subhash Chander</li> <li>• <b>Dr. Harsha Kharkwal</b></li> </ul>
66.	A novel synthetic route of Favipiravir and its intermediate compounds (Provisional Patent: Filed by Crenza Pharmaceutical Pvt. Ltd.)	<ul style="list-style-type: none"> <li>• Dr. Sandhya Pittala</li> <li>• Dr. Subhash Chander</li> <li>• <b>Dr. Harsha Kharkwal</b></li> </ul>
67.	Drug Candidates for Cancer and Method Thereof	<ul style="list-style-type: none"> <li>• Dr. Subhash Chander</li> <li>• Mr. Ankush Goyal</li> <li>• <b>Dr. Harsha Kharkwal</b></li> <li>• Dr. S. Murugesan.</li> </ul>

68.	A Novel Composition of Cleansing Formulation and Method Thereof	<ul style="list-style-type: none"> <li>• Dr. Subhash Chander</li> <li>• <b>Dr. Harhsa Kharkwal</b></li> </ul>
69.	A Method for Preparing an Herbal Drink Composition	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• Subhash Chander</li> <li>• Neerupma Dhiman</li> <li>• Bhupesh Sharma</li> <li>• Amit C Kharkwal</li> <li>• R. Valavan</li> </ul>
70.	An Anti-Cancer Potential Of 2-(1h-Imidazol-5-Yl) Phenol Derivatives and Method Thereof	<ul style="list-style-type: none"> <li>• Dr. Subhash Chander</li> <li>• Dr. Pallavi Agarwal</li> <li>• Mr. Amarnath Karna</li> <li>• Dr. Piyush Kumar</li> <li>• <b>Dr. Harsha Kharkwal</b></li> <li>• Dr. Pinki Rawat.</li> </ul>
71.	A Novel Fragrance Entrapment Formulation and Preparation Method Thereof	<ul style="list-style-type: none"> <li>• Subhash Chander</li> <li>• <b>Harsha Kharkwal</b></li> </ul>
72.	A Method for Preparing Mulch Films from Agro-waste and Recycling of Plastic	<ul style="list-style-type: none"> <li>• <b>Harsha Kharkwal</b></li> <li>• Arash Moeini</li> <li>• Aleksandra Nestic</li> <li>• Amit Kharkwal</li> <li>• Subhash Chander</li> <li>• Neerupma Dhiman</li> <li>• Bhupesh Sharma</li> <li>• Rajesh Pahwa</li> </ul>
73.	A Method of Preparing Anti-Microbial Fabric by Application of Culture Filtrate of the Fungus Talaromyces Albobiverticillius HNB9	<ul style="list-style-type: none"> <li>• Amit Chandra Kharkwal</li> <li>• <b>Harsha Kharkwal</b></li> <li>• Dushyant Singh</li> <li>• Samaksh Singh Chandel</li> <li>• Soumya Soumyadarshini Tripathy</li> <li>• Jasleen Kaur</li> <li>• Priya Mishra</li> <li>• Ajit Verma</li> </ul>

## TEACHING EXPERIENCE

### Teaching

S. No.	Course	Year
1.	Drug Discovery and Development	<b>2012, 2013, 2014-2019, 2020-Continue</b>
2.	Analytical Biochemistry	<b>2014, 2015, 2016</b>
3.	Natural Product Chemistry	<b>2014, 2015, 2018</b>

4.	Instrumentation and Analytical Techniques in Natural Product Chemistry	<b>2014, 2015, 2018</b>
5.	Drug Development and Novel delivery system	<b>2017, 2018-Continue</b>
6.	Bioscience for Nanotechnology	<b>2017, 2018</b>
7.	Advances in Natural Product Chemistry	<b>2020-Continue</b>

**44 CONFERENCES, WORKSHOPS, WEBINARS, MEETINGS, SYMPOSIUM, SEMINAR AND TRAININGS ATTENDED AS RESOURCE PERSON/SESSION CHAIR/GUEST SPEAKER/SPECIAL INVITEE/PARTICIPANT**

S. No.	Name of the meeting	Venue and Duration	Nature of Participation (Plenary lecture, Invited lecture, poster presentation etc.)
1.	International Conference on Pharmaceutical Technology Phytopharmaceuticals and Biologicals: Trends (PTPPBT-2023)	Organized by Amity Institute of Pharmacy, Amity University Noida and sponsored by DST-SERB, Govt. of India in association with APTI, IPA, Chanakya Pharma, AIMIL Pharma, Amulya Herbs, Natural Solutions, Symbiosis Pharma held on 17-18 <sup>th</sup> March 2023.	Resource Person and Session Chair
2.	E-Conference on “Recent Approaches in Herbal Drugs and Cosmeceuticals’ and delivering a talk on “Bioactive components from herbal medicine: Recent advances in the treatment of osteoarthritis”	Online Conference organized by Gokaraju Rangaraju College of Pharmacy, Hyderabad on 13 <sup>th</sup> December 2022.	Resource Person
3.	DST sponsored 5-day Training Program on “Traditional Medicine-Modern Approaches for Affordable and Accessible Healthcare”	Amity University from 5 <sup>th</sup> to 9 <sup>th</sup> September 2022.	Resource Person/Invited Speaker/Panelist

4.	International Conference on Role of Molecular Chemistry in Drug Design and Development	Organized by Amity Institute of Click Chemistry Research and Studies, Amity University Uttar Pradesh in association with Drug Discovery and Development Cluster, Amity Universe from 29th-30th June 2022, Amity University Uttar Pradesh, Noida	Session Chair
5.	Invited as Resource Person— AICTE Training and Learning (ATAL) Academy sponsored	Organized by KLE College of Pharmacy, Vidyangar, HUBBALLI, Karnataka Online FDP programme from 23 <sup>rd</sup> to 27 <sup>th</sup> November, 2021	Resource Person
6.	Invited speaker in the International Women's Day Celebrations Webinar on "Celebrating Sheroes of Pharmaceutical Research".	Organized by Executive Council of India Pharmacy Graduates' Association of Women Forum on 7 <sup>th</sup> March 2021.	Guest Speaker
7.	Invited Lecture in the Gyan Ganga Programme 2021, Initiative for Teaching Learning Excellence in Chemistry, State Level Training Workshop under subject specific short-term programme.	Jointly organized by Commissionerate of College Education, Rajasthan Jaipur and Department of Chemistry, Government College, Sirohi from 15-20 Feb., 2021	Guest Speaker
8.	AICTE sponsored Online Short-Term Training Program (STTP) on "Basic Fundamentals and Hands on Training on Sophisticated Instruments"	Chandigarh College of Pharmacy (CCP), Landran, Mohali-140307, Punjab from 01-03-2021 to 06-03-2021 (6 days)	Participant
9.	International Webcon on Recent Advances in Chemistry Education and Chemical Research	<b>Organized by:</b> Association of Chemistry Teachers C% Homi Bhabha Centre of Science Education (TIFR) Mumbai and Department of Chemistry, MLSM College, Darbhanga, Bihar, India on Nov. 29, 30 and Dec. 01, 2020	Participant
10.	National Webinar on "Eat Right: Bite by Bite"	<b>Organized by:</b> Departments of Psychology and Physical Education, Sardar Bhagat Singh Government Post Graduate College, Rudrapur (U.S. Nagar)	Participant

		Uttarakhand on 29 September 2020	
11.	Webinar on “How to write a good Research Grant Proposal and Research Project Management”	<b>Organized by:</b> Amity Science, Technology & Innovation Foundation (ASTIF) on August 06, 2020	Participant
12.	Certificate course on “Covid-19 Contact Tracing”	<b>Authorized by:</b> John Hopkins University Offered by: Coursera Completed on: 11-07-2020	Certificate Course
13.	International Virtual Conference on Modern Instrumental and Characterization Techniques in Applied Sciences-2020 (MICTAS-2020)	<b>Organized by:</b> MIET Kumaon Haldwani & Department of Chemistry, H.N.B. Govt. P. G. College, Khatima, Uttarakhand in collaboration with USERC DST Dehradun & Department of Chemistry, R.H. Govt. P. G. College, Kashipur, Uttarakhand, India on July 5-6, 2020 at e-platform	Participant
14.	INyas-Science Leadership Workshop	<b>Organized by:</b> University of Punjab, Bathinda, India from June 22 to June 28, 2020.	Participant
15.	Webinar on “Yoga for Sustainable Goals of UN” delivered by Shri Avadhuta H.H. Guru Dileep kumar Thankappan.	<b>Organized by:</b> Amity University Uttar Pradesh, Noida June 18, 2020	Participant
16.	Webinar on “Yoga Research-Relevance to COVID Pandemic” delivered by Prof. Akshay Anand, Professor, Neuroscience Research lab PGI, Chandigarh.	<b>Organized by:</b> Amity University Uttar Pradesh, Noida June 16, 2020	Participant
17.	Webinar on “A Preventive and Managerial approach towards COVID 19: The Ayurvedic Perspective” delivered by Dr Akhilesh Sharma, Former Advisor (Ayurveda) to the Govt. of Delhi and Visiting Faculty, California College of Ayurveda.	<b>Organized by:</b> Amity University Uttar Pradesh, Noida June 15, 2020	Participant
18.	Webinar on “Yoga for Community Immunity and	<b>Organized by:</b> Amity University Uttar Pradesh, Noida	Participant

	Unity - IDY 2020 Celebrations” delivered by Sh. Des Raj, General Secretary, Bharatiya Yog Sansthan, India	June 09, 2020	
19.	Webinar Lecture Series on the topic of “SUPAC and Dissolution Testing” delivered by Dr. S. Mahesh Kumar, General Manager, Glenmark Pharmaceuticals, Mumbai, India	<b>Organized by:</b> Amity University Uttar Pradesh, Noida Saturday, May 30, 2020	Participant
20.	Webinar Lecture Series on the topic of “Dissolution of Solid Dosage Forms: Technical and Regulatory Requirements” delivered by Dr. Dhananjay S. Singare, Senior Principal Scientist, Piramal Pharma Solutions, Ahmedabad, India	<b>Organized by:</b> Amity University Uttar Pradesh, Noida May 30, 2020	Participant
21.	Webinar on “Best Practices in Higher Education Institutions”.	<b>Organized by:</b> Ramachandra Institute of Higher Education and Research 28 May, 2020	Participant
22.	Webinar on “Indigenous Innovation: Redefining Futuristic Science in India”	<b>Organized by:</b> Shyam Lal College, National Chem Webinar Series conducted from 26th May to 28th May 2020	Guest Speaker
23.	Webinar Lecture Series on the topic of “COVID-19 and Ayurveda: Principle, Practice and Policy” delivered by Sh. Shripad Yesso Naik, Hon'ble Minister of AYUSH (I/C) and Minister of State for Defence (Chief Guest) & Padamshree Vaidya, Rajesh Koteja, Secretary AYUSH (Guest of Honor)	<b>Organized by:</b> Amity University Uttar Pradesh, Noida 21 May, 2020	Participant
24.	Webinar Lecture Series on the topic of “From Health to Happiness” delivered by Yoga Guru Dhakaram, Founder and CEO, Yoga Peace Sansthan	<b>Organized by:</b> Amity University Uttar Pradesh, Noida Sunday, 17 May, 2020	Participant

25.	Panel Discussion on a “New Normal for Pharmacy Field in Covid – 19 Pandemic”	<b>Organized by:</b> Amity University Uttar Pradesh, Noida 17 May, 2020,	Participant
26.	Webinar Lecture Series on the topic of “De Novo Engineering of Regulatory Systems and Enforcement Learning in E. Coli” delivered by Dr. Satya Prakash, Research Fellow, University of Warwick, United Kingdom	<b>Organized by:</b> Amity University Uttar Pradesh, Noida May 03, 2020	Participant
27.	Webinar Lecture Series on the topic of “Covid 19 and Ayurveda” delivered by Prof. Sanjeev Sharma, Director - National Institute of Ayurveda, Jaipur (India), Ministry of AYUSH, Govt. of India	<b>Organized by:</b> Amity University Uttar Pradesh, Noida April 28, 2020	Participant
28.	CPSEs Forum on ‘Scaling up R&D Investment – Way Forward’	4 March 2020, Juniper Hall, India Habitat Centre, New Delhi	Special Invitee
29.	Invited for 2019 Nature Mentoring in Science Awards (Expert Talk)	<b>Venue:</b> Lecture Room 2, India International Centre Annexe 40, Max Mueller Marg, Lodhi Gardens, Lodhi Estate, New Delhi, Delhi 110003 <b>Duration:</b> 1.00 pm to 4.45 pm	Special Invitee
30.	CSTT Invitation for Shyam Lal College 2 days Seminar on the topic “Science- with Lens of Scientific & Technical Terminology”	<b>Invited by:</b> Commission for Scientific and Technical Terminology, Ministry of Human Resource Development (Higher Education Department), Government of India, West Block-VII, R.K. Puram, Sector-1, New Delhi 110066, Phone: 011-26105211, Fax: 011-26101220, Website: <a href="http://www.cstt.nic.in">www.cstt.nic.in</a> <b>Date:</b> 29-01-2020 to 30-01-2020	Resource Person
31.	One day National Seminar on the topic “Recent Trends of Research in Medicinal Plants and Applied Sciences”	<b>Invited by:</b> Ramjas College, Delhi University <b>Date:</b> 27 <sup>th</sup> March 2019	Speaker

32.	Inaugural function of Ramjas College Life Sciences Society, Genesis, Ramjas College, University of Delhi	<b>Invited by:</b> Ramjas College, University of Delhi <b>Date:</b> 22 <sup>nd</sup> October 2019	Request to deliver keynote address
33.	25 <sup>th</sup> DST-CII Technology Summit	Hotel J W Marriott, Aerocity, New Delhi, 15 <sup>th</sup> -16 <sup>th</sup> Oct 2019	Special Invitee
34.	Innohealth2019 –Unmet need leading to Innovation	Hotel Taj Vivanta, Dwarka, New Delhi, India; 4 <sup>th</sup> -5 <sup>th</sup> oct, 2019	Participant
35.	One day regional seminar on Use of “e-CHARAK” & Voluntary Certification Scheme for Medicinal plants as a platform for promotion of forward – backward linkages in MAP sector	Confederation of Indian Industry, Chandigarh- Northern Region, 28 <sup>th</sup> June 2018	Participant
36.	Attend the Five days Training of trainer on Good Agricultural Practices of Medicinal Plants under project entitled “Development of Training Module and Facilitation guide for Good Agricultural practices and Good Collection practices for Medicinal Plants”	ICAR-DMAPR, Anand, Gujarat, 12-18 <sup>th</sup> January 2018	Participant
37.	International Seminar on Phytochemistry-2018	JNTBU, Thiruvantapuram, 26-27 <sup>th</sup> March, 2018	Oral Presentation
38.	8 <sup>th</sup> Conference on Bioprospecting-Initiatives and Challenges (Marina’15)	Coimbatore, 27 <sup>th</sup> -28 <sup>th</sup> December, 2015	Oral Presentation
39.	16 <sup>th</sup> International Conference on Medicinal and Aromatic Plants	Penang, Malaysia 4 Dec, 2014 to 05 Dec, 2014	Participant
40.	Global R&D Summit 2013- Destination India	FICCI, International, FICCI, Tansen Marg, New Delhi, India, 25 Jul, 2013to 27 Jul, 2013	Oral Presentation
41.	Workshop on Fundamentals of HPLC with LC Solution	Shimadzu, New Delhi, 16-17 <sup>th</sup> May, 2013	Participant
42.	7th ISDNP	Amity University Uttar Pradesh, Noida; 15-17 <sup>th</sup> November, 2012	Oral Presentation
43.	11th International Hydrocolloid Conference	Purdue University, Indianapolis, USA; 14-19th May, 2012	Oral Presentation
44.	CAMAG-HPTLC Training	Anchrome, Mumbai, 2007	Participant



## PAPER PRESENTATION IN CONFERENCE AND SEMINAR

S. No.	Title	Author(s)	Months / year	Journal/ Conference Magazines/ Newsletter	Level (International, National, Text, Reference, books & others)
1.	Hepatoprotective activity of acetone Extract of <i>Cocus nucifera</i> inflorescence	Chithra MA, <b>Kharkwal H</b> , Pushpangan P and George V	2018	Seminar	International
2.	Aqueous alcoholic extracts of Curcuma longa and withaniasominifera rhizome improve cognitive impairment on Swiss albino mice of dementia model	R.Valavan, <b>H. Kharkwal</b> , S.K. Rajput, R.Hoerr	2018	Conference	International
3.	Preliminary Phytochemical Screening and TLC Standardization of Various Extracts of Cocos Nuciferas L. Inflorescence	M.A. Chithra, <b>Harsha Kharkwal</b> , R. Sharma, V. George	2016	Seminar	International
4.	GC-MS analysis of root oil of Hemidesmus indicus (L.) R. Br.	M.A. Chithra, <b>Harsha Kharkwal</b> , R. Sharma, V. George	2015	Conference	National
5.	IP Protection for Nutraceuticals	<b>Harsha Kharkwal and PreetiPanthari</b>	2014	Conference	International
6.	Analysis of Caffeic Acid from MyricaNagi Leaves by High Performance Liquid Chromatography	Dr.PreetiPanthari Bahuguna and <b>Harsha Kharkwal</b>	2014	Conference	International
7.	Novel Dietary Supplement Development and its Patenting Issues	K. Bala, <b>Harsha Kharkwal</b> and DPKatara	2014	Conference	International

8.	Novel Synthesis of Magnetic Iron Oxide Nanoparticles Using <i>Cinnamom zeylanicum</i> Leaf Extract	<b>Harsha Kharkwal,</b> Monika Joshi, PreetiPanthari, Pranav	2014	Conference	International
9.	Green Synthesis of Silver Nanoparticles Using Ethanolic extract of <i>Zanthoxylum alatum</i> leaves.	<b>Harsha Kharkwal,</b> Monika Joshi, PreetiPanthari, Pranav	2014	Conference	International
10.	A novel composition for the preparation of herbal tea	PreetiPanthari and <b>Harsha Kharkwal</b>	2014	Conference	International
11.	Glyconutritional dietary Supplements from Plant Carbohydrates	<b>Harsha Kharkwal</b>	2012	Conference	International
12.	Anticancer Potential of Nano-Curcumin isolated from <i>Curcuma longa</i> L.	<b>Harsha Kharkwal</b>	2012	Conference	International
13.	Antifungal activity of Clerodendrum infortunatum	<b>Harsha Kharkwal</b>	2012	Conference	International
14.	Biodegradable chitosan for processed foods	<b>H. Kharkwal,</b> Charu Gupta &Dhan Prakash	2011	Workshop	International
15.	Role of functional foods in osteoporosis	Dhan Prakash, <b>H. Kharkwal</b> &Charu Gupta	2011	Workshop	International
16.	Lactoferrin: A promising antimicrobial of future	Charu Gupta, <b>H. Kharkwal</b> andDhan Prakash	2011	Workshop	International
17.	Nutraceutical enhanced with probiotic for hypercholesterolemia	Charu Gupta, <b>H. Kharkwal</b> andDhan Prakash	2011	Workshop	International

18.	Study of Fenugreek Activity as a Potential Antimicrobial Agent and a Stable Emulsifier	Manisha Sharma, Pradeep Nair, Deependra Tyagi, <b>Harsha Kharkwal</b> , PalpuPhushpangadan and Ajit Varma	2011	Seminar	International
19.	Food Safety Measures and Role of Indian Standard Authorities	Manisha Sharma, Aparajita Das, <b>Harsha Kharkwal</b> , PalpuPhushpangadan and Ajit Varma	2010	Workshop	International
20.	Nanochemistry: Use of Cyclodextrine to enhance bioavailability of natural drugs	<b>H. Kharkwal</b> , Charu Gupta &Dhan Prakash	2010	Conference	National
21.	Nanoparticle based Herbal Drugs	<b>H. Kharkwal</b> , Charu Gupta &Dhan Prakash	2010	Conference	National
22.	Tissue Restoration, Tissue Engineering and Regenerative Medicine	Navjyot Bharat, <b>Harsha Kharkwal</b> , Kumud Bala, Deepshikha Pande Katarer	2010	INPALMS Conference	International
23.	Herbal Contraceptive Formulations	M. Sharma, G. Chauhan, S. Tripathi, N. Shrivastava, V. M. Dan, A.Varma and <b>H. Kharkwal</b>	2008	Workshop	National
24.	Patenting Life in Modern Day Science	G. Chauhan, M. Sharma, S. Tripathi, V. M. Dan, N. Shrivastava, A. Das, <b>H. Kharkwal</b>	2008	Workshop	National
25.	Nanotechnology: A Future Aspect for a Better Treatment in Cervix Cancer	Chauhan G, <b>Kharkwal H</b> , and Varma A	2007	Seminar-Cum-Workshop	National
26.	Herbal Contraception and Nanotechnological Applications	Sharma M, <b>Kharkwal H</b> , Pushpangadan P and Varma A	2007	Seminar-Cum-Workshop	National
27.	Novel Symbiotic Fungus towards the value addition of Herbal Plants and IPR	Kharkwal, A.C. <b>Kharkwal H.</b> , Das A, Sharma M, Prasad R, Bhatnagar K, Verma N, Kamal S, Tripathi S, Chatterjee S and Varma A	2007	Symposium	National

28.	Nanotechnology	<b>Kharkwal Harsha,</b> Kharkwal Amit, Bisaria VS and Varma A	2006	ASSOCHAM Global Summit	International
29.	Effect Of Carboxmethylation on viscosity and additive properties of Dhaincha seed galactomannan	<b>Harsha Kharkwal and V.P. Kapoor</b>	2004	Conference	
30.	Pharmaceutical and Nutritional value for Mushrooms	<b>Mahesh Pal, S.Chandra and Harsha Kharkwal</b>	Oct 2003	Conference	
31.	Chemical derivatization of Cassia seed gums for improving their additive properties	<b>Harsha Kharkwal, Mahesh Pal and V.P. Kapoor</b>	Nov 2002	Conference	
32.	Dhaincha Seed Gum: An additive for Herbal Drug formulation	<b>Harsha Kharkwal, Mahesh Pal and V.P. Kapoor</b>	Nov 2002	Conference	
33.	Clerodendrum Infor tunatum: A Potential herbal fungicide	<b>Mahesh Pal, Harsha Kharkwal, Leena Chaurasia &amp; Palpu Pushpa ngadan</b>	Feb 2002	Conference	
34.	Antifungal activity of water-soluble gum from the seeds of Cassia grandis	<b>Harsha Kharkwal, Leena Chaurasia, Mahesh Pal and V.P. Kapoor</b>	Feb 2002	Conference	
35.	Suspending and antifungal properties of native and modified Cassia grandis seed gum	<b>Harsha Kharkwal, Mahesh Pal and V.P. Kapoor</b>	Jan 2002	Conference	

## ORGANIZED

S. No.	Name of the meeting	Venue and Duration	Role
1.	Seminar-cum-Workshop on Application of Nanotechnology in Microbial & Herbal Product Development	Amity University Uttar Pradesh, 23 <sup>rd</sup> - 25 <sup>th</sup> March 2007	Organizing secretary
2.	Five Days Research Training Programme in Phytochemistry,	Online 12 <sup>th</sup> -16 <sup>th</sup> April 2021	Organized as a Research Expert

	Herbal Technology and Synthetic Chemistry		
3.	Three Days Advance Research Training Program in Phytochemistry, Herbal Technology and Synthetic Chemistry	Online 21 <sup>st</sup> -23 <sup>rd</sup> October 2021	Organized as a Research Expert

## MEMBERSHIP IN SCIENTIFIC & ACADEMIC SOCIETIES/REVIEW PANEL

S. No.	Name of the Scientific & Academic Societies/Review Panel	Role
1.	Lifetime membership Parental and Enteric Nutrition (IAPEN) No-4325-6532-9856-2702	Member
2.	Amity International Society of Natural Products	Coordinator
3.	European Science Foundation (ESF) College of Experts Reviewers	Member

## TECHNOLOGY TRANSFER

- NDA/MTA signed with **PRATHISTA INDUSTRIES LIMITED, HYDERABAD** on 27.12.2022 for Biodegradable Plastic and Vegetarian Capsules.
- NDA/MTA signed with **COLORBAND DYESTUFF (P) LTD.** on 01.02.2020 for Herbal Colours.
- NDA/MTA signed with **L'OREAL INDIA PRIVATE LIMITED** on 11.12.2018 for Natural Hair Dye.
- Biodegradable Plastics Technology transferred to **GxT Green, Boston** 1<sup>st</sup> April 2016. Progression made for Biodegradable Plastics Technology from (2016-2020):
  - ✓ Industrial grade sample of Amity's Patent Biodegradable Plastic were made at Okhla Industry (like spoons, plates and pots etc.). Biodegradability test was carried out at organic farms.
- Additives for Paint Industry:
  - ✓ NABL accredit Lab Results for Paint Additive Patents (Liquid and Solid samples) were shared with the industry.
- Dark Herbal Colours:
  - ✓ Technology transferred to **Sri Laxmi Industries**, Jaipur in 2015.
- Transferred technology of "**Herbal Gulal**" to (This particular technology from NBRI, Lucknow)
  - ✓ D.M. Herbal, Chattisgarh
  - ✓ Forest Department, Chandigarh
  - ✓ R.M. Herbal, Hathras

## REVIEWER/EDITOR for journals like

- Frontiers in Chemistry
- Royal Society of Chemistry
- RSC Advances
- Journal of Pharmacy and Nutrition Science
- Nanotechnology
- Journal of International Medical Research
- Trends in Food Science and Technology
- Therapeutic Delivery
- Drug Research
- Biomedicine Pharmacotherapy etc.

## DETAILS OF MENTORING/ ACTIVITIES:

Sr. No.	Program	No. of Students	Approx. no. of hours devoted / p.m.	Activity done
1.	MSMT (2008-10)	4	20	<ul style="list-style-type: none"><li>• Coordinated with the students for their dissertation work</li><li>• Guided them for future Jobs</li><li>• Advised them on personal matters</li><li>• Cleared their doubts related to the Subject</li></ul>
2.	MSMT (2009-11)	3	20	<ul style="list-style-type: none"><li>• Coordinated with the students for their dissertation work</li><li>• Guided them for future Jobs</li><li>• Advised them on personal matters</li><li>• Cleared their doubts related to the Subject</li></ul>

I Mentor of Post Graduation Students for Research and Dissertation work and having full-time and part-time Ph.D. Students pursuing Ph.D. in relevant areas of Natural Product Chemistry.

## PROGRAMME LEADER/COORDINATOR ACTIVITIES

Sr. No.	Course	Period
1.	<b>Sangathan</b> Faculty Coordinator (AIMT)	2007; 2008 and 2009
2.	<b>Convocation</b> Faculty coordinator (AIMT)	2006; 2007; 2008;2009 and January 2010
3.	<b>Examination</b> coordinator (AIMT)	2007 and2008
4.	<b>Orientation</b> Programme coordinator (AIMT)	4 <sup>th</sup> -6 <sup>th</sup> August 2009
5.	<b>Course Coordinator</b> M. Sci. I Sem. (MHM)	2007-2008
6.	<b>Course Coordinator</b> M. Sci. II Sem. (MT)	2009-2010
7.	<b>Fresher's party</b> Coordinator (MT)	2006,2007, 2008 and 2009

## COORDINATOR/ DRC/SRC

S. No.	Coordinator
1.	Faculty Coordinator for Sangathan- 2007-2009
2.	Faculty Coordinator for Convocation: 2006-January 2010
3.	One of the Faculty in Examination Squad: 2008
4.	DRC, SRC- 2007-2008 Member of DRC- 2006-2007 Member of DRC-2010-13 (AIP) Member of DRC-2010-13 (AIHRS) Member of DRC-2010-13 (AIPP)
5.	Member of BOS- 2006-2007; 2007-2008
6.	Examination Coordinator for AIMT: 2007-2008
7.	Orientation Programme coordinator (9 Institutes) held between: 4-6 <sup>th</sup> August 2009
8.	Member selection Board for GD/Interview for AIHRS, AIMT: 2006-2007,2009
9.	Alumni Coordinator for students of AIMT -2009
10.	Member of DRC/SRC -2018-till date (AIP)
11.	Chairperson of DRC/SRC-2017-till date (AIP&P)

## DISSERTATION STUDENT'S DATA

Sl. No.	Year	Title of Project	Name of the Student	Level/Batch	Faculty Guide
1.	2010-2011	"Characterization of certain biopolymers used in targeted drug delivery".	Ms. Sonam Dhingra	M.Phama	Dr. Harsha Kharkwal
2.	2012-2013	Natural Polymer Based Biodegradable Plastic	Mr. Anish Samaddar	M.Sc (Biotech)	Dr. Harsha Kharkwal
3.	2012-2013	Natural Polymer Based Biodegradable capsules	Mr. Navdeep Kaushik	M.Sc (Biotech)	Dr. Harsha Kharkwal
4.	2014	Extraction, isolation and Formulation of <i>Mucuna pruriens</i> and <i>Berberis aristata</i>	Ms. Shreeya Thakur	M.SC (Biotech)	Dr. Harsha Kharkwal
5.	2013-2014	Natural Polymer in Drug Delivery	Mrs. Priyanka Tiwari	M.Sc (Biotech)	Dr. Harsha Kharkwal
6.	2013-2014	Phytochemical Investigation on High Altitude Medicinal Plants	Ms. Shagun Sher Gill	M.Sc (Biotech)	Dr. Harsha Kharkwal
8.	2013-2014	Extraction, Purification and formulation of Medicinal Plants	Ms. Kirti Chaudhary	M.Sc (Biotech)	Dr. Harsha Kharkwal

9.	2013-2014	Natural Polymer Based Cling Films for Food Packaging	Ms. Bhanu Malhotra	M.Tech (Biotech)	Dr. Harsha Kharkwal
10.	2014	Biocomposites from Natural Resources	Mr. Anish Das	M.Sc (Biotech)	Dr. Harsha Kharkwal
11.	2015	Study of Different Medicinal Plants by Bio-Activity Guided Fractionation	Alisha Mahajan	B. Tech Biotechnology	Dr. Harsha Kharkwal
12.	2015	Assessment of Antioxidant and Antimicrobial Properties of different extracts of high-altitude Medicinal plants	Himanshi Gupta	B. Tech Biotechnology	Dr. Harsha Kharkwal
13.	2013	Phytochemical Investigation on High Altitude Medical Plants	Shagun Sher Gill	M.Sc. Biotechnology	Dr. Harsha Kharkwal
14.	2013	Natural Polymer in Drug Delivery	Priyanka Tiwari	M.Sc. Biotechnology	Dr. Harsha Kharkwal
15.	2015	Extraction of Colors from Natural Sources for Cosmetic Use	Cheshta Arora	B.Tech Biotechnology	Dr. Harsha Kharkwal
16.	2013	Natural Polymer Based Biodegradable Plastic	Anish Samaddar	M.Sc. Biotechnology	Dr. Harsha Kharkwal
17.	2014	Phytochemical Screening of Medicinal Plants having High Therapeutic Value	Jyotsana Sanasam	B.Tech Biotechnology	Dr. Harsha Kharkwal
18.	2014	Natural Polymer Based Detergents for Stain Removal	Anu Keshwani	M. Tech Biochemical Engineering	Dr. Harsha Kharkwal
19.	2014	Antimicrobial and Antioxidant Activity of Phytoconstituents Extracted from Ginkgo Biloba	Priyanka Verma	M.Sc. Microbiology	Dr. Harsha Kharkwal
20.	2015	Different Formulation of Lesser Utilized Fraction of Selected Medicinal Plants	Vikas Saroha	B. Tech Biotechnology	Dr. Harsha Kharkwal
21.	2014	Extraction, Isolation and Formulation of MucunaPruriens and Berberis Aristata	Shreeya Thakur	B. Tech+ M. Tech Biotechnology Dual Degree	Dr. Harsha Kharkwal



22.	2014	Extraction, Purification and Formulation of Some Medicinal Plant	Kirti Chaudhary	M.Sc. Biotechnology	Dr. Harsha Kharkwal
23.	2014	Biocomposites from Natural Resources	Anish Das	B.Sc. Medical Biotechnology	Dr. Harsha Kharkwal
24.	2015	Study of Different Medicinal Plants by Bioactivity Guided Fractionation	Ms. Alisha Mahajan	M.Sc (Biotech)	Dr. Harsha Kharkwal
25.	2015	Phytochemical Screening of Medicinal Plants having High Therapeutic Value	Ms. Jyotsana Sanasam	M.Sc (Biotech)	Dr. Harsha Kharkwal
26.	2015	Extraction of Colours from Natural Sources for Cosmetic Use	Ms. Cheshta Arora	M.Sc (Biotech)	Dr. Harsha Kharkwal
27.	2015	Assessment of Antioxidant and Antimicrobial properties of Different extracts of High Altitude Medicinal Plants	Ms. Himanshi Gupta	M.Sc (Biotech)	Dr. Harsha Kharkwal
28.	2015	Different Formulation of Lesser Utilized Fraction of Selected Medicinal Plants	Mr. Vikas Saroha	M.Sc (Biotech)	Dr. Harsha Kharkwal
29.	2017	Anticancer drug (breast cancer) extraction, isolation & formulation of drug from herbal plant	Sonali Rajput	M.Sc., AIPAS	Dr. Harsha Kharkwal
30.	2017	Anti-Diabetic Study- Extraction, Isolation and Formulation of API's from selected medicinal plants and to study their physiological pathway	Ms. Meenali Mishra	M.Sc., AIPAS	Dr. Harsha Kharkwal
31.	2019	Antimicrobial and antioxidant activity of phytoconstituents from ginkgo biloba	Priyanka Verma	M.Sc., AIMT	Dr. Harsha Kharkwal
32.	2019	Extraction of Phytoconstituents, Preparation and	Richa Chauhan	M.Sc., AIMT	Dr. Harsha Kharkwal

		Characterization of nanoparticles.			
33.	2019	Extraction, Column purification, characterization, and application of herbal extracts	Ms. Ritika Kapoor	B. Pharmacy, AIP	Dr. Harsha Kharkwal
34.	2019	Extraction, Column purification, characterization, and application of herbal extracts	Ms Zeba Khan	B. Pharmacy, AIP	Dr. Harsha Kharkwal
35.	2019	Extraction, Column purification, characterization, and application of herbal extracts	Mr. Bhavik Khatter	Pharmacy, AIP	Dr. Harsha Kharkwal
36.	2019	Extraction, Column purification, characterization, and application of herbal extracts	Mr. Sakshi Yadav	B. Pharmacy, AIP	Dr. Harsha Kharkwal
37.	2019	Extraction, Column purification, characterization, and application of herbal extracts	Ms. Sonalika Bhalla	B. Pharmacy	Dr. Harsha Kharkwal
38.	2022	Extraction and Analysis of Phytochemical, Antimicrobial and Antioxidant Properties of Medicinal Plants	Niharika Purkait	B.Sc. (AIMT)	Dr. Harsha Kharkwal
39.	2022	Extraction and Analysis of Phytochemical, Antimicrobial and Antioxidant Properties of Medicinal Plants	Simran	B.Sc. (AIMT)	Dr. Harsha Kharkwal
40.	2023	Extraction, Bioactivity Guided Fractionation and Formulation of Few Medicinal Plants	Garima Gaur	B.Sc. (AIMT)	Dr. Harsha Kharkwal
41.	2023	Antimicrobial, Formulation and Phytochemical	Simran Ravish	M.Sc. (AIMT)	Dr. Harsha Kharkwal

		Analysis of Medicinal Plants			
42.	2023	Phytochemical Investigation and Formulation of extracts of <i>Berberis aristata</i> and <i>Cymbopogon flexuosus</i>	Srishty Mudgal	B.Sc. (AIMT)	Dr. Harsha Kharkwal
43.	2023	Assessment of Antioxidant and Antimicrobial Properties of Different Extracts of Selected Medicinal Plants	Priyanshi Sachdeva	B.Sc. (AIMT)	Dr. Harsha Kharkwal
44.	2023	Extraction and Analysis of Phytochemical, Antimicrobial, and Antioxidant Properties of Selected Medicinal Plants”	Sushmita Singh	B.Sc. (AIMT)	Dr. Harsha Kharkwal
45.	2023	Extraction, Standardization of Natural Dyes for Different Applications (Food, Cosmetics and Textiles)	Supriya Dey	M.Sc. (AIMT)	Dr. Harsha Kharkwal
46.	2023	Extraction Bioactivity Guided Fractionation and Value Addition of Selected Medicinal Plant known for Anti-diabetic Activities	Priyanshi Thakur	M.Sc. (AIMT)	Dr. Harsha Kharkwal
47.	2023	In-silico Screening of Antiaging Phytoconstituents of Some Medicinal Plants and Development of a Polyherbal Formulation	Aayushi Chandra	M.Sc. (AIP)	Dr. Harsha Kharkwal
48.	2023	Quantification of Plant Secondary Metabolites by TLC and UV Visible Photo-Spectrometry	Mallika Sharma	B.Sc. (AIMT)	Dr. Harsha Kharkwal