

FACULTY PROFILE

1. Name: Dr. Penny Joshi

2. Designation: Assistant Professor

3. Qualification: M.Sc. (University of Delhi, Delhi)

Ph.D. (University of Delhi, Delhi)

Post-Doctoral Research (*Photodynamic Therapy*, RPCI-Buffalo, USA)

4. Area of Specialization/Research field: *Medicinal and natural product chemistry,
Cancer-Nanotechnology, PDT*

5. Awards/Recognitions:

- **Post-Doctoral Research Fellowship (National Institute of Health (NIH)- -USA @ Roswell Park Cancer Institute-Buffalo (NY)).**
- Qualified **National Eligibility Test (UGC)** (Year 2003 and 2004).

Awards/recognition to research scholars:

- Ph.D. Scholar **Ms. Ankita Tripathi** received **Young Scientist Award** at **International conference, ICEFN & SEM-2019**, Organized by Nanoscience and Nanotechnology Centre, Kumaun University Nainital (April 2019). Also got selected for **DST-INSPIRE** fellowship (2017).
- Ph.D. Scholar **Ms. Rekha Gahtori** received **Young Scientist Award** in Annual meeting of **Uttarakhand Council of Science and Technology** (March 2018). Also got selected for **ICMR-SRF** (2019).
- Ph.D. Scholar **Ms. Nidhi Negi** received **Young Scientist Award** in Annual meeting of **Uttarakhand Council of Science and Technology** (March 2018).
- Ph.D. Scholar **Mr. Ashutosh Paliwal** received **Certificate of Appreciation**, from Faculty of Science, Kumaun University Nainital, for research in Biotechnology (National Science Day, 28 Feb. 2017).

6. Number of Research projects:

i) Completed (PI)

S. N.	Title of the project	Funding Agency	Amount(Rs.)	Year (From-To)
1	Developing a pharmacogenomic screen for comprehensive assessment of anticancer activities of phytochemicals from Uttarakhand flora	Kumaun Univ. (UGC) - Minor Res. Project under 'Innovative Res. Activities Scheme'	1.00 Lacs	2016-2017
2	Design and synthesis of novel curcumin-coumarin analogs as anticancer agents	UGC New Delhi	6.00 Lakh	2015-2017

ii) On-going (Co-PI)

S. N.	Title of the project	Funding Agency	Amount	Date of Commencement	Expected date of completion
1	To establish a DNA-barcoding and chemotaxonomy empowered herbarium of lichen-species of Uttarakhand-Himalaya and development of a resource group for conservation and characterization of lichen-biodiversity	National Mission on Himalayan Studies (NMHS), Ministry of Environment, Forest & Climate Change (MoEF&CC)	60.66 Lacs	April 2018	March 2021
2	DNA-barcoding of ethno-medicinal and high-value plants of Uttarakhand Himalaya and assessment of anti-inflammatory nutraceutical potential of selected phyto-extracts	DIBER (DRDO)	9.97 Lacs	February 2020	May 2021

iii) Others

S. N.	Title	Agency	Amt.(INR)	Period
1.	Worked for drafting proposal for 'Establishing Cancer Biology program at Kumaun University'.	Rashtriya Uchchatar Sikshya Abhiyan (RUSA)	2.27 Cr (Granted to Kumaun University)	2015 onwards

7. Number of Ph. D candidates successfully completed: *Yet to complete*

8. Number of Ph. D candidates currently working: **04** (as supervisor)

03 (as co-supervisor)

9. Publications:

i) Research Articles published in journals

1. K. Kumar, P. Kumar, [P. Joshi](#), D.S. Rawat (2020). IBX mediated oxidation of alcohols to aldehydes and ketones under mild reaction conditions. **Tetrahedron Letters; 151749. (I.F.= 2.3)**
2. N. Karki, H. Tiwari, M. Pal, A. Chaurasia, N. Bal, [P. Joshi](#), NG. Sahoo (2018). Functionalized graphene oxides for drug loading, release and delivery of poorly water soluble anticancer drug: A comparative study. **Colloids and Surfaces. B, Biointerfaces; 169, 265-272. (I.F.= 4.0)**
3. C. Saenz, R. R. Cheruku, T.Y. Ohulchanskyy, [P. Joshi](#), W.A. Tabaczynski, J.R. Missert, Y. Chen, P. Pera, E. Tracy, A. Marko, D. Rohrbach, U. Sunar, H. Baumann, R. K. Pandey (2017). Structural and Epimeric Isomers of HPPH [3-Devinyl 3-{1-(1-hexyloxy) ethyl}pyropheophorbide-a]: Effects on Uptake and Photodynamic Therapy of Cancer. **ACS Chemical Biology; 12(4), 933-946. (I.F.= 4.3)**
4. M. Dukh, [P. Joshi](#), K. Ohkubo, W. Tabaczynski, N. J. Patel, R. J. Missert, S. Zador, F. Shunichi, R. K. Pandey (2017). Impact of peripheral substituents in regioselective synthesis of position-10 or position-20 bromo-bacteriochlorins. **Tetrahedron Letters; 58, 851–854. (I.F.= 2.3)**

5. N. J. Patel, P. Pera, [P. Joshi](#), M. Dukh, W. A. Tabaczynski, K. E. Sifers, M. Kryman, R. R. Cheruku, F. Durrani, J.R. Missert, R. Watson, T. Y. Ohulchanskyy, E. C. Tracy, H. Baumann, R. K. Pandey (2016). Highly Effective Dual-Function Near-Infrared (NIR) Photosensitizer for Fluorescence Imaging and Photodynamic Therapy (PDT) of Cancer. *Journal of Medicinal Chemistry*; 59(21), 9774-9787. (I.F.=6.0)
6. N. S. James, [P. Joshi](#), T. Y. Ohulchanskyy, Y. Chen, W. Tabaczynski, F. Durrani, M. Shibata, R. K. Pandey (2016). Photosensitizer (PS)-cyanine dye(CD) conjugates: Impact of the linkers joining the PS and CD moieties and their orientation in tumor-uptake and photodynamic therapy (PDT). *European Journal of Medicinal Chemistry*; 122, 770-785. (I.F.= 4.8)
7. N. J. Patel, Y. Chen, [P. Joshi](#), P. Pera, H. Baumann, J. R. Missert, K. Ohkubo, S. Fukuzumi, R. R. Nani, M. J. Schnermann, P. Chen, J. Zhu, K. M. Kadish, R. K. Pandey (2016). Effect of Metalation on Porphyrin-Based Bifunctional Agents in Tumor Imaging and Photodynamic Therapy. *Bioconjugation Chemistry*; 16, 27(3), 667-80. (I.F.= 4.3)
8. N. J. Patel, E. Manivannan, [P. Joshi](#), T. J. Ohulchanskyy, R. R. Nani, M. J. Schnermann, R. K. Pandey (2015). Impact of Substituents in Tumor Uptake and Fluorescence Imaging Ability of Near-Infrared Cyanine-like Dyes. *Photochemistry and Photobiology*; 91, 1219. (I.F.= 2.3)
9. P. Srivatsan, P. Pera, [P. Joshi](#), Y. Wang, J. R. Missert, E. C. Tracy, W. A. Tabaczynski, Walter, R. Yao, M. Sajjad, H. Baumann, R. K. Pandey (2015). Effect of chirality on cellular uptake, imaging and photodynamic therapy of photosensitizers derived from chlorophyll-a. *Bioorganic & Medicinal Chemistry*; 23, 3603-17. (I.F.= 2.8)
10. [P. Joshi](#), D. S. Rawat (2015). Theophylline- Triazole-Coumarin Based Molecular hybrids. *Indian Journal of heterocyclic chemistry*; 24(4), 411-418.
11. P. Gupta, S. Wang, A. Marko, [P. Joshi](#), M. Ethirajan, Y. Chen, R. Yao, M. Sajjad, R. Kopelman, R. K. Pandey (2014). Polyacrylamide-Based Biocompatible Nanoplatfrom Enhances the Tumor Uptake, PET/fluorescence Imaging and Theranostics Anticancer Activity of a Chlorophyll Analog. *Theranostics*; 4, 614. (I.F.= 8.0)

12. **P. Joshi**, M. Tripathi, D.S. Rawat (2014). *Synthesis and characterization of novel 1,2,3-triazole-linked theophylline and coumarin s-triazines*. *Indian Journal of Chemistry Section B* ; 54B 311.
13. N.S. James, Y. Chen, **P. Joshi**, T.Y. Ohulchansky, M. Ethirajan, M. Henary, L. Strekowsk, R.K. Pandey (2013). *Evaluation of polymethine dyes as potential probes for near infrared fluorescence imaging of tumors- Part-1* *Theranostics*; 3(9), 692-702. (I.F.= 8.0)
14. N.S. James, T.Y. Ohulchansky, Y. Chen, **P. Joshi**, X. Zheng, L.N. Goswami, R.K. Pandey (2013). *Comparative tumor imaging and PDT Efficacy of HPPH conjugated in the mono-and di-forms to various polymethine cyanine dyes- Part-2* *Theranostics*; 3, 703. (I.F.= 8.0)
15. M. Sharma, **P. Joshi**, N. Kumar, S. Joshi, R.K. Rohilla, N. Roy, D.S. Rawat, (2011). *Synthesis, antimicrobial activity and structure–activity relationship study of N, N-dibenzyl-cyclohexane-1, 2-diamine derivative*. *European journal of medicinal chemistry*; 46, 480. (I.F.= 4.8)
16. M. Ethirajan, **P. Joshi**, I. William, H. White, K. Ohkubo, S. Fukuzumi, R.K. Pandey (2011). *Remarkable Regioselective Position-10 Bromination of Bacteriopyropheophorbide-a and Ring-B Reduced Pyropheophorbide-a* *Organic letters*; 13, 1956. (I.F.= 6.7)
17. Srivatsan, Y. Wang, **P. Joshi**, M. Sajjad, Y. Chen, C. Liu, K. Thankppan, J.R. Missert, E. Tracy, J. Morgan, N. Rigual, H. Baumann, R.K. Pandey (2011). *In vitro cellular uptake and dimerization of signal transducer and activator of transcription-3 (STAT3) identify the photosensitizing and imaging-potential of isomeric photosensitizers derived from chlorophyll-a and bacteriochlorophyll*. *Journal of medicinal chemistry*; 54, 6859. (I.F.=6.0)
18. **P. Joshi**, M. Ethirajan, L.N. Goswami, A. Srivatsan, J.R. Missert, R.K. Pandey (2011). *Synthesis, spectroscopic, and in vitro photosensitizing efficacy of ketobacteriochlorins derived from ring-B and ring-D reduced chlorins via pinacol–pinacolone rearrangement*. *The Journal of organic chemistry*; 76, 8629. (I.F.=4.7)

19. M. Ethirajan, [P. Joshi](#), W.H. White, R.K. Pandey (2011). *Regioselective bromination of chlorins and bacteriochlorins: A key approach for developing multifunctional agents for tumor imaging and photodynamic therapy*. *Photodiagnosis and Photodynamic Therapy*; 8, 192. (I.F.=2.5)
20. M. Ethirajan, Y. Chen, [P. Joshi](#), R.K. Pandey (2011). *The role of porphyrin chemistry in tumor imaging and photodynamic therapy*. *Chemical Society Reviews*; 40, 240. (I.F.=40.3)
21. R. Singh, M. Sharma, [P. Joshi](#), D.S. Rawat (2008). *Clinical status of anti-cancer agents derived from marine sources*. *Anti-Cancer Agents in Medicinal Chemistry*; 8, 603. (I.F.=2.5)
22. D.S. Rawat, M.C. Joshi, [P. Joshi](#), H. Atheaya, (2006). *Marine Peptides and Related Compounds in Clinical Trial*. *Anti-Cancer Agents in Medicinal Chemistry*; 6, 33. (I.F.=2.5)
23. M.C. Joshi, [P. Joshi](#), D.S. Rawat (2006). *Microwave assisted synthesis of symmetrically and asymmetrically substituted acyclic enediynes*. *Arkivoc*; 16, 65. (I.F.=1.2)

ii) Patents:

1. Metallation enhancements in tumor-imaging and PDT therapy, Pandey, Ravindra K; Baumann, Heinz; Chen, Yihui; [Joshi, Penny](#); Patel, Nayan; Health Research, Inc. [US 8609837, 2013/12/17,US](#)
2. Paa nanoparticles for tumor treatment and imaging, Pandey, Ravindra K; Gupta, Anurag; [Joshi, Penny](#); Ethirajan, Manivannan; Srivatsan, Avinash; Photolitec, Llc, [US 9045488 , 2015/6/2,US](#)

iii) Book Chapters:

1. S. K. Upadhyay, R. C. Rai, R. Gehtori, A. Paliwal, P. Gautam, [P. Joshi](#) (2017). Drug Resistance in Cancer; in: [Drug Resistance in Bacteria, Fungi, Malaria, and Cancer](#); Springer, USA (ISBN 978-3-319-48682-6).

2. A. Marko, N. J. Patel, [P. Joshi](#), J. R. Missert, R. K. Pandey (2016). Multifunctional Agents for Cancer Imaging and Photodynamic Therapy; in: [Handbook of Photodynamic Therapy: Updates, World Scientific](#).
3. [P. Joshi](#), R. K. Pandey (2016). Synthesis and Biological Significance of Porphyrin Based Photosensitizers in Photodynamic Therapy in: [Therapeutics and Advanced Biophotonics CRC Press](#)
4. [P. Joshi](#), C. Saenz, J. R. Missert, R. K. Pandey (2013). Recent Advances in Developing Improved Agents for PDT in [Handbook of Photomedicine, CRC Press](#)

iv) Papers presented in Conferences/Seminars

1. [R. Gahtori](#), A. Paliwal, R. Anand, Y. Joshi, [P. Joshi](#), L. M. Tewari, S.K. Upadhyay (2019). Studies on Lichen Biodiversity in Uttarakhand. [National Conference SUTBC-January 06, 2019](#)
2. A. Paliwal, R. Gahtori, N. Negi, G. Chand, [P. Joshi](#) and S.K. Upadhyay (2019). A survey of studies on phytomedicinal potential of lichens. [National Conference SUTBC-January 2019](#)
3. R. Gahtori, A. Paliwal, N. Negi, R. Anand, G. Chand, Y. Joshi, and S.K. Upadhyay (2019). Promoting the Lichen trade and conservation in Uttarakhand through facilitating precise species identification. [International Conference ACMAP-2019, scheduled in February 14th-16th 2019, Dehradun](#).
4. R. Gahtori, A. H. Tripathi, N. Negi, [P. Joshi](#), S.K. Upadhyay (2018). "Molecular systematic identification and anti-bacterial activities of *Nyctanthes* and *Perilla* plant-extracts isolated from Kumaun region of Uttarakhand" [12th Uttarakhand state council for science & Technology \(UCOST\), Dehradun](#).
5. R. Gahtori, N. Negi, A. Paliwal, G. Chand, [P. Joshi](#), S.K. Upadhyay (2018). "Molecular identification by DNA barcoding and assessment of the anti-oxidative and anti-bacterial activities of *Nyctanthes arbo-tristis*" [4th India International Science festival \(IISF\), Lucknow](#).
6. A Paliwal, R. Gahtori, N. Negi, [P. Joshi](#), S.K. Upadhyay (2018) "Elucidation of anti-oxidative and anti-microbial potentials of alcoholic leaf-extracts of *Cissampelos pariera*: A traditional phytomedicinal plant in Uttarakhand" [4th India International Science festival \(IISF\), Lucknow](#).

v) Review articles published in journals:

1. A. Paliwal, R. Gahtori, A. Kumari, Negi N., Chand G., [Joshi P.](#), Tewari L.M., Joshi Y. and S.K. Upadhyay (2018). Applications and roles of Lichens in the conservation of Himalayan environment. [ENVIS Bulletin Himalayan Ecology 26:47-52](#).

2. A. Tripathi, R. Gahtori, N. Negi, A. Paliwal, **P. Joshi** and S.K. Upadhyay (2016). Epithelial-Mesenchymal Transition (EMT), Cancer Progression and Role of Aromatase. *J Chem Eng Chem Res.* 3(11): 1067-1074.

10. Conference/Seminar organized:

- Member of organizing committee: **'Hands-on training on Classical and Molecular methods of Lichen-identification'** at the Dept. of Biotechnology, Kumaun Uni. Campus, Bhimtal (Uttarakhand), Sponsored by NMHS (MoEF&CC) and Uttarakhand Council for Biotechnology (UCB); 12-14 March 2020.
- Member of organizing committee: **'Lichen Identification and Conservation'** at Pithoragarh (Uttarakhand), Sponsored by NMHS (MoEF&CC); 27 December 2018.
- Joint Secretary of organizing committee: **International conference ICEFN&SEM-2019**; Kumaun Uni. Nainital; 24-26 May, 2019.
- Member of organizing committee: **International conference ICEFN-2016**; Kumaun Uni. Nainital; March 27-29, 2016.
- Member of organizing committee: **'National Seminar NSSAPPE-2017'**, Dept. of Botany, DSB Campus, Kumaun Uni. Nainital; March 27-28, 2017.

11. Academic/Administrative positions held

- Member of Departmental **Admission committee**.
- Member of **B.Sc. Admission Committee**

12. Membership to professional Organization/Associations:

- Life member of **Indian Science Congress Association (ISCA)**.
- Life time member of **Society of Biological Chemists (SBCI)**.

13. Examiner Duties

- Have been serving as External and Internal examiner for practical examinations conducted by Kumaun University for Undergraduate and Post-graduate courses related to Chemical Sciences.

(Dr. Penny Joshi)