

# Dr. Ashish K Thakur

## + CONTACT

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**Current Address** Assistant Professor Chemistry at Department of Chemistry, Government PG College Kullu, Himachal Pradesh, India.

**Permanent Address** Vill. Karhoti PO Killar, Tehsil: Pangi Dist: Chamba, Himachal Pradesh, India. PIN-176323

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**Nationality** Indian

**Gender** Male

## +RESEARCH INTEREST

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Bioactivity guided natural product isolation of new compounds from medicinal and aromatic plants and their extensive characterization using 1D and 2D NMR and HR-ESI-MS.

Extraction of essential oil from plant source

Metabolic profiling of edible plants using LC-MS-MS

Metabolomics studies of medicinal plants using modern analytical techniques (NMR, UPLC/MS/MS/GC-MS) coupled with multivariate data analysis.

## + EDUCATION DETAIL

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**Aug 2012 – Dec 2017**

**Ph.D. in Natural Products and Analytical Chemistry**

**Thesis Title "Phytochemical Investigation of *Saussurea lappa*, *Costus speciosus* and *Jurinea macrocephala* from Western Himalaya"**

**Institution/University**

Academy of Innovative and Scientific Research (AcSIR)

CSIR-Institute of Himalayan Bioresource Technology

Post Box No. 6, Palampur -176061 (H.P), India

**2010 – 2011 MASTER of Philosophy in Polymer chemistry**

Thesis title "**Synthesis and characterization of polyacrylic acid based new nano-hybrid polymer for malachite green uptake**

**University** Himachal Pradesh University Summer Hill Shimla, India, PIN-171005

**2008-2010 MASTER of Chemistry (Organic Chemistry specil. with 69.5%)**

**University** Himachal Pradesh University Summer Hill Shimla, India, PIN-171005

**2005-2008 BACHLEOR OF SCIENCE (Chemistry, Botany and Zoology with 69.4%)**

**University** Himachal Pradesh University

**College/Institution** Dharamshala College

## + FELLOWSHIP AND AWARDS

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- ✓ UGC-NET-JRF qualified in December 2010 conducted by CSIR.
- ✓ Worked as a resource person in CUHP.
- ✓ Cleared HPPSC exam for Assistant Professor Chemistry 2018.
- ✓ Selected as Assistant Professor Organic Chemistry at YSP Nauni University Solan (H.P.) 2019.
- ✓ Selected as Postdoc Fellow under FAPESP fellowship at Sao Paulo University Brazil 2018.

## + LANGUAGES

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Mother tongue **Pahari**

Other languages **Hindi, English**

Foreign languages **None**

## + RESEARCH PUBLICATIONS

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- I. **Ashish Kumar**, Shiv kumar, Dharmesh kumar, Vijai K Agnihotri.\* UPLC/MS/MS method for quantification and cytotoxic activity of sesquiterpene lactones isolated from *Saussurea lappa*. *Journal of Ethnopharmacology* 155(2014)1393–1397.
- II. **Ashish Kumar**, Dharmesh Kumar, Antim K Maurya, Yogendra S Padwad, Vijai K Agnihotri.\*New semi-synthetic stereospecific scaffolds of isoalantolactone and their cytotoxic activity. *Phytochemistry Letters* 2016; 18: 117-121
- III. **Ashish Kumar**, Pawan kumar, Rajkesh Koundal and Vijai K. Agnihotri\* Antioxidant properties and UPLC-MS/MS profiling of phenolics in jacquemont's hazelnut kernels (*Corylus jacquemontii*) and its byproducts from western Himalaya, India. *Journal of Food Science and Technology* 2016, 53(9), 3522-3531
- IV. **Ashish Kumar**, Gopi Chand, Vijai K Agnihotri (2017). A new oxo-sterol derivative from the rhizomes of *Costus speciosus*. *Natural Product Research*. DOI: 10.1080/14786419.2017.1324962.
- V. **Ashish Kumar**, Antim K Maurya, Gopi Chand, Vijai K Agnihotri (2017). Comparative metabolic profiling of *Costus speciosus* leaves and rhizomes using NMR, GC-MS and UPLC/ESI-MS/MS. *Natural Product Research*.<https://doi.org/10.1080/14786419.2017.1365069>.
- VI. **Ashish Kumar**, Anuja Bhardwaj, Gopichand, Vijai Agnihotri, S.G. Eswara Reddy.(2016). Insecticidal activity of *Costus speciosus* against diamondback moth, *Plutella xylostella*. *Current Biotica* 10: 144-148.
- VII. **Ashish Kumar**, Dharmesh Kumar, Antim K Maurya, Yogendra S Padwad and Vijai K Agnihotri\*. Synthesis of New Heterocyclic Amino Derivatives of Alantolactone and their Cytotoxic Activity. *Journal of Heterocyclic Chemistry* (Accepted).
- VIII. **Ashish Kumar** and Vijai K Agnihotri\*. Phytochemical studies of *Jurinea macrocephala* roots from western Himalaya. *Natural Product Research* 34.3 (2020): 421-424.
- IX. **Ashish Kumar and Vijai K Agnihotri**. "NMR based profiling of sesquiterpene lactones in *Saussurea lappa* roots collected from different location of Western Himalaya." *Natural Product Research* (2020): 1-4.
- X. **Ashish Kumar**, Antim K Maurya, Shiv Kumar and Vijai K Agnihotri\*. NMR based metabolic profiling of *Saussurea lappa* roots and aerial parts from Western Himalaya. *Analytical Chemistry Letters*. Accepted. (7<sup>th</sup> July 2020).
- XI. **Ashish Kumar** and G. S. Chauhan. "Synthesis and Characterization of Polyacrylic Acid Based Nano-Hybrid Polymers for Malachite Green Uptake." *Journal of Advanced Chemical Sciences* (2020): 682-685.
- XII. Maurya, Antim K., **Ashish Kumar**, and Vijai K. Agnihotri. "New iridoids from the roots of *Valeriana jatamansi* Jones." *Natural Product Research* (2020): 1-8.
- XIII. Maurya, Antim K., Anamika Sharma, Kushal Kumar, Ram Chander, **Ashish Kumar**, Dharmesh Kumar, Yogendra S. Padwad, Gopi Chand, and Vijai K. Agnihotri. "Comparative studies of essential oils composition and cytotoxic activity of *Valeriana jatamansi* Jones." *Journal of Essential Oil Research* (2021): 1-8.
- XIV. Antim K. Maurya, Renuka Devi, **Ashish Kumar**, Rajkesh Koundal, Soni Thakur, Anamika Sharma, Dharmesh Kumar, Rakshak Kumar, Yogendra S. Padwad, Gopi Chand, Bikram Singh, Vijai K. Agnihotri (2018). Chemical Composition, Cytotoxic and Antibacterial Activities of Essential Oils of Cultivated Clones of *Juniperus communis* and Wild *Juniperus* Species. *Chemistry and Biodiversity*. Doi: 10.1002/cbdv.201800183.
- XV. Rajkesh Koundal, **Ashish Kumar**, Soni Thakur, Vijai K Agnihotri\*, Gopi Chand, Rakesh D. Singh. Seasonal variation in phytochemicals of essential oil from *Juniperus communis* needles in western Himalaya. *Journal of Essential Oil Research* 2015, 27(5), 406-411(doi:10.1080/10412905.2015.1043399).

XVI. Rajkesh Koundal, Dharmesh Kumar, Mayanka Walia, **Ashish Kumar**, Soni Thakur, Gopi Chand, Yogendra S. Padwad, Vijai K. Agnihotri\*. Chemical and *in vitro* cytotoxicity evaluation of essential oil from *Eucalyptus citriodora* fruits growing in Northwestern Himalaya (India). *Flavour and Fragrance Journal* 2015, Published Online (doi: 10.1002/ffj.3296).

XVII. Tavleen S Mann, Vijai K Agnihotri, Dharmesh Kumar, Probir K Pal, Rajkesh Koundal, **Ashish Kumar** and Yogendra S Padwad. *In Vitro* Cytotoxic Activity Guided Essential Oil Composition of Flowering Twigs of *Stevia rebaudiana*. *Natural Product Communications* Vol. 9 (5) 2014, 715-718.

#### **+ PARTICIPTION IN CONFERENCE / WORKSHOP/TRAINING**

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1. National Workshop on “**NMR/MRI From molecules to human** behavior” held at BBAU Lucknow from 21st June 2015 to 27th June 2015.
2. 4th International conference of society of Ethnopharmacology, India Surat, Gujrat, India. February 23-25, 2017. Health care in 21st century: “Perspective of Ethnopharmacology and Medicinal Plant Research”. Poster presentation on “**Phytochemical Studies and Value Addition of Saussurea lappa from Western Himalaya, India**”. By **Ashish Kumar**, Dharmesh Kumar, Yogendra S Padwad and Vijai K Agnihotri\*.
3. National conference on Frontier in polymer science organized by Department of Chemistry, HPU Shimla, India, during November 18-19, 2011. Poster presentation on **Synthesis and characterization of new polyacrylic acid based nano-hybrid polymer for malachite green uptake**. Ashish Kumar and G.S. Chauhan\*.
4. Participated in National symposium on Chemistry innovation for human well being by Department of Chemistry, HPU Shimla, India, during October 21-22, 2011
5. Dr. Ashish Kumar of Department of Chemistry, Government PG College Chamba, Himachal Pradesh successfully completed a **4-Week Induction/Orientation Programme for “Faculty in Universities/Colleges/Institutes of Higher Education” from 15 February – 16 March, 2022** From Teaching Learning Centre, Ramanujan College University of Delhi In collaboration with SST COLLEGE OF ARTS & COMMERCE, ULHASNAGAR, MAHARASTRA and HINDU COLLEGE, MORADABAD, UTTAR PRADESH under the aegis of MINISTRY OF EDUCATION PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON TEACHERS AND TEACHING.
6. Organizing committee member in Hands on Workshop for Schools teachers on **use of Foldscope (paper microscope) at Government College Chamba Sultanpur, Chamba (Himachal Pradesh)** on 25th – 26th November 2021
7. Delivered oral presentation of the paper entitled: **Antioxidant Properties and UPLC-ESI-MS/MS Metabolic Profiling of Costus Speciosus Flower and Seed Extracts** in the conference ICNPHH 2022 held at Dshbandhu College, University of Delhi, New Delhi, India. November 4<sup>th</sup>-6<sup>th</sup>, 2022.

#### **TEACHING EXPERIENCE**

Involved in teaching of Chemistry courses in the Mansoon Semester, 2017 and in the Spring semester 2018 as a resource person in the Department of Chemistry and Chemical Sciences, **Central University of Himachal Pradesh, TAB-Shahpur, Kangra-176206**.

Courses Taught in two semester (AS a **RESOURCE PERSON, Sep 2017- June 2018**)

CCS-401 Organic Chemistry I (M.sc Chemistry course)

CCS-407 Organic Chemistry II (M.sc Chemistry course)

CCS-404 Organic Chemistry Lab (M.sc Chemistry course)

CCS-102 Chemistry II (B.sc Chemistry course)

CCS-102L Chemistry II (B.sc Chemistry course)

**Assistant Professor Chemistry at Govt College Chamba, Nov 1<sup>st</sup> 2018- 10<sup>th</sup> August 2022**

#### **Courses Taught**

**101TH-** Atomic Structure, Bonding, General Organic Chemistry (Bsc 1<sup>st</sup> Year)

**102TH-** States of Matter, Chemical Kinetics & Functional Organic Chemistry (Bsc 1<sup>st</sup> Year)

**201TH-** Solutions, Phase Equilibrium, Conductance, Electrochemistry & Organic chemistry (Bsc 2<sup>nd</sup> year)

**202TH-** Chemistry of Main Group Elements, Chemical Energetics, Chemical and Ionic equilibrium (Bsc 2<sup>nd</sup> year)

**301th-** Polynuclear Hydrocarbons, dyes, Heterocyclic Compounds and Spectroscopy

**305TH-** Polymer Chemistry

**308TH-** Pesticide Chemistry and Pharmaceutical Chemistry

**Assistant Professor Chemistry at Govt College Kullu, August 13<sup>th</sup> , 2022 to present**

**Courses Taught**

**201TH-** Solutions, Phase Equilibrium, Conductance, Electrochemistry & Organic chemistry (Bsc2nd year)

**202TH-** Chemistry of Main Group Elements, Chemical Energetics, Chemical and Ionic equilibrium (Bsc2nd year)

**203TH-** Basic Analytical Chemistry